Environment and Urbanisation In Early Tamilakam

Tamil University
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ENVIRONMENT AND URBANISATION IN EARLY TAMILAKAM

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PREFACE

Urban history is an area of comparatively recent interest among Indian historians. The central concern in historical research has more often been with agrarian systems, peasant history and general pattern of social and economic change. But, it is of interest to note that C.P.Venkatarama Ayyar examined the Sangam Classics as early as c. 1916, to find out references to town-planning in ancient Madurai, Vanji, Conjeevaram and Kaverippumpattinam. The book has been reprinted by M/s. Mittal Publications, Delhi in 1987 with a prefatory introduction by the present author.

Of the physio-cultural zones, the land in Marutham was most fertile. Here, cultivation began at an early stage of history. other amenities of settled-life and progress could flow only on the wake of agricultural progress. We hear of early centres where paddy was kept in heaps. The Sangam literature furnishes quite a considerable list of small as well as big towns. An attempt is made here to focus attention on environment as a determining factor in the evolution of towns of early Tamilakam.

Archaeological data are not quite adequate since we are still unable to explain the processes by which the first cities of Tamilakam came into being. Equally enigmatic are the facts provided by literature. Yet, it is possible to cull out information and present a reasonably admissible history of urbanisation.

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T.K.Venkata Subramanian.

ABBREVIATION

Akam	Akananuru
Nacc	Nachchinarkkiniyar
Pa'tirru	Patirruppaththu
Perumban	Perumbanarruppatai
Puram	Purananuru
Silap	Silappathikaram
Sirupan	Sirupanarruppatai
Tol	Tolkappiyam
Tol. Porul	Tolkappiyam Porulathikaram
Tol. Akaṭ	Tolkappiyam Akatinai Iyal
Tol. Purattinai	Tolkappiyam Purattinai Iyal

TRANSLITERATION AND DIACRITICAL MARKS

Long vowels are indicated thus ā ē etc. In respect of transliteration of consonants, as undiluted scientific method leads to pedantry a compromise has been made with current usage.

I

INTRODUCTION

"Urban Study" is a comparatively recent field of academic discipline. Cities are the oldest artefacts of civilised life. Till the Industrial Revolution, most social thinkers viewed the City as the image of society itself and not as some special or unique form of social-life. This identification of society and city changed during the Industrial Revolution of the last two centuries, because the cities themselves changed. The Industrial cities meant something which could not be comprehended by the use of a few early labels or categories. This paved the way for Urban Studies in the West. India was late to catch up mainly because of its different social situation. In recent years, Urban Studies are attracting the attention of scholars in this country.

The value and importance of Urban Studies is patent. Substantial work in the field is yet to be done. Since Independence, interest has certainly been increasing and significant studies have been undertaken. The Harappan cities since their excavation have attract-

ed due attention.[1] But the same is not true of the cities of Ancient India or Tamilakam. The first book on ancient Tamil Towns was written by C.P.V.Iyer.[2] B.B.Cutt was one of the earliest historians to write on Ancient-Indian Cities.[3] This work is mainly based on *Arthaśāsthra*, *Mānasara* and *Māyāmatam*. Stuart Piggot was the next to write a small monograph on Ancient Indian-Cities.[4] He has reduced it to a travel guide.

G.S. Ghurye was the next to make a sociological analysis of cities of India.[5] He is mainly concerned with the modern data, but the chapter dealing with the Capital cities of India touches upon some aspects of historical cities. Town-planning had been extensively dealt with since the extant literary texts refer to this aspect of town-life in detail. Amita Ray's work is a case in point.[6] B.N. Puri's book attempts to collect evidences from both archaeology and literature, and the treatment of the subject is site-wise.[7] The most important contribution to the subject seems to be that of A.Ghosh.[8] This compact monograph gives evidence of the author's intimate acquaintance with both literary and archaeological sources relating to ancient towns as well as his familiarity with the recent sociological studies about urbanisation.

V.G. Childe was the first to formulate the concept of urban revolution.[9] He put forward a delineation of the archaeological traits accompanying the earliest city.

a) The first cities must have been more extensive and more densely populated than any other previous settlements.

(b) While there might have been peasants cultivating lands outside the cities, all cities must have accommodated non-producing classes supported by the surplus produced by the peasants.

(c) Each primary producer paid over his surplus to a deity or divine king who thus concentrated on the surplus.

(d) Truly monumental buildings were constructed which not only distinguished each known city from the village but also symbolised the concentration of social surplus.

(e) The non-food producing specialists were supported by the surplus concentrated in temples or royal granaries and were dependant on the temple or court. Amongst the specialists, priests, civil and military leaders and officials absorbed a major share of the surplus, and thus came to form the ruling class which conferred substantial benefits upon the subjects in the way of planning and organisation.

(f) The political expediency compelled the ruling class to invent systems of recording and exact practically useful sciences. Revenue-administration obliged the administrators to invent writing and numeral notation.

(g) The invention of writing enabled the leisured clerks to elaborate more exact and predictive sciences -- arithmetic, geometry and astronomy.

(h) Other specialists gave a new direction to artistic expressions by carving, modelling and drawing according to conceptualised and sophisticated styles.

(i) The concentration of surplus also facilitated foreign trade.

(j) In the city, craftsmen were provided with raw materials needed for the employment of their skill and also guaranteed security in a state organisation based on residence rather than kinship. Itinerary

was no longer obligatory. The city was a community to which a craftsman could belong politically as well as economically.

All the criteria laid down by Childe have not gained universal acceptance, nor are they universally applicable. The classificatory factors that Adam suggested are also deemed important.[10]

1. Reliance on widely different food resources.

2. Occupational specialisation.

3. Adoption of irrigation.

4. Need of a strong agricultural hinter-land.

5. Emergence of Guilds.

6. Emergence of a monetary exchange system.

Paul Wheatley has a meaningful suggestion to make in this regard.[11] He suggests that there could be five conceptually distinct, though in practice, partially over-lapping approaches to the investigation of urban-forms.

1. Reliance on ideal type constructs.

2. Formation of ecological theories.

3. Delineation of trait complexes.

4. Conceptualisation of the city as a centre of dominance.

5. An expediential approach usually based on the size of the urban settlement.

It is possible to classify geographical and archaeological characteristics with identifiable types of towns.

This has great relevance to urban studies.

(a) The discovery of large number of coins from any site may qualify it as a centre of trade and commerce.

(b) The discovery of structures resembling markets might suggest that the site in question was a market town.

(c) The location of towns on river banks or on known land-routes may also suggest their commercial nature.

(d) If a site expresses a structure resembling a dominating temple building or a Buddhistic monastic complex, it may be presumed that the site had some religious significance too.

As noted before, early historic urban centres in Tamiḻakam are yet to attract the due attention of scholars. This is the primary reason for the present study, besides, of course, may own interest in ancient Tamiḻian urban development processes. The present work covers the first three centuries of the Christian era, generally accepted as the Age of the Śaṅgam. The Śaṅgam Literature furnishes us quite a considerable list of names of small as well as big towns, some of them outside Tamilnadu within the national boundaries and overseas too. In this work, an attempt has been made to focus attention on environment as a major determining factor for evolution of towns in early Tamiḻakam.

In India, urban studies are still in their formative stage. Historians are forced to seek the collaboration of other social scientists in related disciplines like Geography, Sociology, Economics and Political Science. An area of enquiry which proposes to study a certain facet of experience in space and time, needs a certain focus, a certain approach. This focus is all the more

necessary in a field, where more than a single discipline is involved. Urban-history is the study of urbanisation, of the evolution of urban centres in the span of time, the factors which promote and retard such growth, and the ecology which towns generate in several related dimensions such as the natural environment, the economic system, political apparatus, societal network and even the minds of men living in towns.

In History, the town has emerged with two primary characteristics: first, a high density of population concentrated within a limited space and secondly, a predominantly non-agricultural, particularly non-cultivating nature of its population. This men-space ratio and occupational heterogeneity with their consequential relationships may be taken as the primary basis for differentiation between the town and the village. Obviously, the urban-centre comes into being within a rural setting. In an economy which is primarily agrarian, viewing through this glass is of paramount importance. The town of ancient Tamiḻakam appears to be an extension of the village.

Urban development is a complex process that defies simple and isolationist explanation. It is an epitome of a society progressing towards a more civilised way of life. It has to be studied and assessed properly, only in a total societal framework. In the ancient-Tamilian context, an analysis of the progress of urbanisation clearly brings out the essential environmental and economic ingredients of the town that went into its make-up. A discussion of the causative factors of urban growth, while necessarily emphasising the environmental and economic elements has to include within its purview all the possible supplementary factors for its growth like an increased food supply, increase in population, craft specialisation, marketing and trade, social stratification, administration, warfare and defence.

The very existence of an urban community pre-

supposes the existence of surplus food production. Towns can emerge precisely at the moment when the agriculturists start producing a surplus that can sustain basically 'Non-productive urban residents'. The question of increasing food supply also brings into focus the problem of hinterland from where food should be supplied to towns. In primitive societies, there has always been a tendency to produce food-stuff as near as possible to the place where it has to be consumed, mainly because of the cost and labour involved in importing this stuff from a far-away place.

All towns irrespective of their size and population depend on certain external forces, like a non-urban population supplying food and materials and in turn consuming the goods and services offered by the town. This implies that denser the overall population within the limits of effective agricultural production zones, it can support more urban population. As the town grows, the population also increases. The increase in population is obviously due to the process of rural-urban migration initiated by the emergence of towns. The obvious reason for this migration must have been economic.

Urban economy has two main constituents namely Trade and Crafts. Even for a developed system of trade handicraft production had been a necessity. The craftsmen produced a variety of articles which formed important items of trade, internal as well as external. The nature of manufacturing in urban centres primarily depended on the principle of craft-specialisation.

Trade and Market play a crucial role in the development of towns. In ancient Tamilakam, trade played an important role in the crystallization of towns. In a sense, it can be suggested that urban economy was sustained by trade. This is indicated by the growth of power and prestige of the mercantile community in the urban-setting, the necessity of a mechanism

of distribution, the exchange of food stuff for finished urban goods and the area of rural-urban trade being limited to the neighbouring country side.

Linked with the importance of crafts, and trade for urban growth, was the emergence of social stratification. The significance of social stratification in the urban-context can be appreciated from the fact that the very basis of urbanisation was the division of society into distinct economic groups: producers and consumers.

Warfare has been regarded as one of the important activities helping urban transformation. Organised Warfare made a significant contribution to the intensification of urban development by including a concentration of settlement for purposes of defence. The need for defending towns, especially those which were seats of royal power, required an army or group of specialised persons to dig canals and moats, erect ramparts and other defences. Throughout ancient Tamiḻakam, important towns were surrounded by walls which protected them against attacks and political co-ercion or made them strong enough to dominate the surrounding country side. All persons connected with the defence work permanently resided within the city walls and were employed by the King or chieftain.

Urban growth cannot be explained by a single factor. There have been various determinants of urban growth in ancient Tamiḻakam. But the most dominant and crucial factor in early Tamiḻian urban growth had been the geographical system of an area. This can be better understood in terms of the rainfall of the area, its fertility, availability of agricultural land, scope for natural irrigation as well as natural fortification. In ancient times, when transportation system was not either efficient or easy, the towns depended for their survival on the neighbouring hinterland. This might explain how the fertility and other characteristics of a region become decisive in the context of urban

growth.

The significance of geographical location can also be appreciated from yet another angle. In ancient Tamiḻakam, there were to important categories of Towns -- Economic and coastal. There were obvious reasons for the growth of such towns -- either they were trade-centres, or they grew as a result of their location on important trade-routes. Thus it can be suggested that there were urban centres, though mainly economic in nature, whose raison d'etre was basically their geographical and location and ecology.

It should however be emphasized that in ancient times hardly any town performed a single function. Functionally we can classify urban areas into these types: 1. Administrative centres; 2. Religious centres; 3. Military centres; 4. Market centres; 5. Cultural centres.

In a search for the Growth of urban centres in ancient Tamiḻakam, the Researcher is confronted with some basic questions:-

(a) How do towns grow and how does a population, of whatever size, take up residence in the Towns?

(b) What difference does it make to the individual that some activities come to be centred in the 'Population-aggregates' that we call 'Urban'?

(c) What is the cumulative impact on the pace of societal change as towns become more and more the characteristic human environment?

These questions are relevant to any cultural setting and for any chronological period. Since applying the general norms in the context of Tamiḻakam, the following points have been kept in mind. An explicit conceptual frame-work, a theory or model had been adopted.

Theories are taken as coherent groups of general propositions used as principles of explanation for a class of events. The role of theory is, that it offers an explanation of probable classes of events that accumulated in the past.

To study urban centres, human ecologists have a frame-work called POET.* The theoretical construction assumes that the urban structure results from a societal process that alters the balance between population and environment in ways mediated by technological innovation and changing social organisation. That is, they have argued for a study of the processes of urbanisation based upon the variables of population, social organisation, the physical environment and technology. As people congregate together in population concentrations within limited geographical environments, the process itself eventually produces societal-wide changes in the levels of technology and in the types of social organisation existent in urban as well as rural areas. Although this approach has an apparent environmental determinism, it is believed it has considerable merit and has been adopted. Consequently this happens to be a study based on environment and Economics. A historical probe has been made to understand the Urban growth in ancient Tamiḻakam during the "Augustan age of the Tamils".

The Sources

The Nineteenth century may well be called the 'Golden age of Historical writing'. Historical outlook is a novel product and 'Scientific out-look' that is objective history, everywhere in the World is a relatively recent development. Yet, historical outlook depends upon external evidence and is essential. It is also equally true that Evidence by itself is not History. It becomes history only when criticism authenticates it

* Population, Organisation, Environment, Technology.

and the mind of the historian assesses it. A Historian is dependent upon activities of all sorts -- SOURCES as they are normally termed. One of the important branches of historical evidence is designated "LITERARY" in a very wide sense. To the historian every written document from which can be excluded inscriptions and writings on coins, is 'Literature', 'Śaṅgam Literature' include all those produced during the Śaṅgam Age.[12] We have the account of the three Tamil Śaṅgams which, from the historical angle, is deemed as a "Stupendous Legend".

Whatever may be the relative merits of the theories concerning earlier Śaṅgams, the Śaṅgam Literature available to us as sources is taken as belonging to the third Śaṅgam. Speculations range from the sixth century B.C. to the third century A.D., and the date of the third Śaṅgam awaits fixation. The events and facts embedded in the literature are definitive and concrete. Considerable success had been recorded in arranging the literature as earlier and later, mainly depending on internal evidences.[13]

Of all the surviving Śaṅgam-works, the anthologies are said to belong to the earliest strata. In A.D. 1904, U. V. Swaminatha Iyer made it available to the public. They had been edited in eight schematic groups *(Eṭṭutokai)* namely *Naṟṟinai, Kuṟuntokai, Ainkuṟunuṟu, Patiṟṟuppaṭṭu, Paripāḍal, Kaliṭṭokai, Akanāṉūṟu* and *Puṟanāṉūṟu.* The ninth group *Paṭṭuppāṭṭu* completes the tale. The language and modes of expression in the anthologies have attained full maturity. Aesthetically and by tradition, they are distinct from the later, medieval literature beginning from the *Thēvāram* hymns (C. 650 A.D.). *Śilappathikāram* and *Maṇimēkalai* considered as later works by some scholars are definitely prehymnal. They have been consulted in the preparation of this work, since they provide additional information on urban centres like Kāverippūmpaṭṭiṇam.

Governed by a fairly elaborate code of conventions, the anthologies are again classified schematically as -- *Akapporuḷ* and *Puṟapporuḷ*. The former pertains to subjective emotion that finds expression usually on various occasions, principally in love. *Puṟapporuḷ* concerns itself with such external reactions of an individual or group of people, such as fighting, bravery, self-sacrifice and patriotism, especially during offensive and defensive war-fare. This two-fold conventional division is provided by the grammar *Tolkāppiyam*.

The aim and methodology of the Śaṅgam works like *Puṟanāṉūṟu* are different from other Indian Literature like the *Vēdic*, Epic or *Purāṇic* texts. For example, the *Purāṇas* abound in supernatural elements. In Śaṅgam Literature, we come across with such miracles occasionally. The subjective as well as the objective Tamil anthologies give information on political events, polity and administration, people and daily-life, social customs and beliefs, religion, articrafts, trade centres, capital towns, rice-producing centres and other sciences. The Sangam Literature form the main literary sources to construct the history of ancient Tamiḻakam. It is the oldest available to us. P.T. Srinivasa Iyengar, the late lamented historian intuitively observed that "If chronology is the eye of History, ancient Tamil history will have always to be blind". Much progress had been made since he made this observation and a researcher can depend upon the authenticity of the sources and its approximate time of compilation.

Despite speculations ranging from sixth century B.C. to third century A.D., the date of the Śaṅgam is still a debatable point, though events and facts embedded in the literature are definitive and concrete. Attempts have been made to arrange the anthologies chronologically depending on internal evidence.[14]

The Śaṅgam anthologies and the Twin Epics prove to be Treasure-troves of information to the historian.

Every piece of information, whether it has political or social significance, coming down to us from ancient times is valuable. Literary data are dependable unless their authenticity is contradicted or questioned by other types of evidences. As such, literary-evidence need not be frowned upon, if it is not primafacie absurd and if there is no other evidence effectively to counter it.

Literary Sources -- Foreign

(a) Natural History by Pliny (A.D.77) (b) Periplus of the Erythraen-sea (A.D. 80 to 96) (c) Ptolemy's Geography (A.D.80) based on the work of Marinus (A.D.130) are useful and provide corroborative evidences. Pliny, the elder, and the anonymous author of the Periplus give the first tangible account of the Tamil-states, their rulers, polity and culture. The works give a fairly full account of the coastal towns (Ports) in Tamiḻakam and the commodities in which they traded and the conditions of navigation in the second half of the first century A.D. Ptolemy of Alexandria, the geographer, exhibits a fair knowledge of many inland towns of Tamiḻakam.

Archaeological and Inscriptional Evidences

Some of the findings yielded by recent excavations in Tamilnadu,[15] throw light on the Śaṅgam age. The excavations conducted at Kiḻayūr around Kāvērippaṭṭiṇam have brought to light interesting data regarding the ancient port-town of the early Chōḻas. Intensive explorations conducted in the district of Thanjāvūr have revealed a number of coastal sites datable to the beginning of the Christian era. They indicate that Tamiḻakam flourished as a great centre of religious and cultural activities and had both commercial and cultural contacts with the then existing Roman Empire. Excavations at Tiruḳkāmpuliyūr in the Tiruchirāppaḷḷi district of Tamilṇadu have brought to light some inte-

resting finds throwing a flood of light on the "Material culture of the Kāvēri basin".[16] The excavations conducted at Uraiyur in the same district have also brought to light the cultural and commercial contacts with the Roman Empire.[17] The pot-sherds inscribed in Brahmi are interesting discoveries at the site. The sherds are ascribed to some time between the first century B.C. and first century A.D., according to stratigraphical evidence as well as on paleographical grounds.

The Çeṅkassappan inscription at Pukalūr near Karur in Tiruchirappalli district confirms the basic appraisal of the historical value of the Śaṅgam Literature in the light of the contemporary Roman writers referred to earlier.

A consideration of the available sources proves that they are bonafide materials for constructing history of ancient Tamilakam. Most of them are literary, the inscriptional sources being comparatively less. An authentic history of the urban growth is possible on the basis of their sources. The heritage of the Tamil country had been shaped mainly by environmental factors, the distribution and source of raw-materials the inception of iron-metallurgy, the maritime bias of the land and the early application of language in the script-medium. The environmental factor as a causative and formative influence of urban growth in ancient Tamilakam, the central theme of this work, is ascertained with reference to the source materials.

II

THE ENVIRONMENT

Towns have always been of interest to the geographer. From the earliest times regional geographies have dealt with them. Strabo, in his 'Geography' was well aware of the importance of location; -- "The natural advantages of a place should always be mentioned, since they are permanent. Advantages which are adventitious are liable to change ...... which continue to come to be regarded by posterity not as works of art but as the natural advantages of a place; these, therefore, it is evident we must notice".[1] Early attempts in this regard were descriptive in nature. The replacement of description by interpretation of location laid the foundations for new perspectives. To a large extent, the new approach mirrored those in geography as a whole. There was also the attempt for finding a basis in working out the consequences of the physical environment inspite of the nebulous concept of man -- "the master of the possibilities" of the physical world. It is inevitable that at the time, the unifying bases of urban study are to be found in those factors

of location which controlled urban development. The basic concept of this study is to explain the origin and development of towns as a function of the physical condition of its situation. Inspite of human changes, nature always asserts its rights even on an organism as complex as a town.

'Geography', wrote Hartshorne "is concerned to provide accurate, orderly and rational description and interpretation of the variable character of the earth's surface".[2] True that the geographer is concerned with the analysis of the variable character of the earth's surface. On that surface, the populations and buildings agglomerated together to make up towns. The Town as an unit, feature of the earth's surface has, like all other features, two associated aspects namely (a) Its location or position (b) Form or internal-structure. These two aspects emerge clearly when differences of scales are considered.

Location could only be understood from functions: What a town does? or Did in the past? -- determines its location and controls its growth. Two associated concepts could be derived from the consideration of functions namely 1. the nature of urban functions, that is we seek to answer the questions -- What are the sorts of activities which dominate the whole range which towns perform? In particular, to what extent are specialised functions carried out and what are they? 2. The stature (or status) of urban services, that is excluding specialised functions. We try to answer the question: To what extent the town takes part in central (crucial) activities.

R. J. Johnston has identified three branches in the current studies of Environment and urban growth.[3] The first is the quantitative approach to description based on a nomothetic philosophy in which the geographer's role is to document the spatial organisation of society. Second is the 'Behavioural-approach' which

proposed the study of individual activities within their perceived worlds, and thirdly 'The Radical structuralist approach' which stresses the constraints that society as a whole and particularly certain groups within it impose on the behaviour of the individual. An attempt is made here to analyse these postulates in respect of urban growth in ancient Tamil country.

Physical

Three branches of geography are involved in the appraisal, assessment of potential and utilisation. Of these, physical geography covers topography, geomorphology, geology, climate, catchment areas and consequent rivers, sources of surface and underground water. The second 'Spatial geography' consists of the study of distribution, size and economic significance of human settlements, of markets, of farming enterprises, transport systems and administrative centres at different grades. The third Bio-geography deals with the distribution of actual vegetation and fauna in biological ecosystems, cultivated and domestic crops and domestic animals in economic-ecosystems; the incidence of their beneficial and malevolent consequences, and men as a biological component of ecosystems at different levels of growth. In this chapter, we analyse the first, namely, physical-geography of the Tamil country.

In Tamiḻakam, there were (a) Hilly-tracts, (b) Forestlands on the Plateaus, (c) Fertile cultivable lands in the delta areas and river valleys and (d) coastal lands. The laudatory poem by Panampāraṇār prefixed to the *Tolkāppiyam* mentions only the northern and southern boundaries for Tamiḻakam as Vēṅkatam and Kumari respectively. It leaves the eastern and western boundaries to be inferred. As the commentator suggests naturally because the other two boundaries were the eastern and western seas they are left unmentioned. The western sea (Arabian Sea) was then called *Totukaḍal* or the 'Sea that was dug out'.

The hill-tracts were *Kurinchi*, the pasture lands *Mullai*, cultivable lands *Marutham* and the coastal belt *Neithal*. They were so named after the characteristics of the areas. *Kurinchi*, *Mullai*, *Neithal* and *Marutham* became the four chief divisions. Some parts of the country were dry and almost desert, defying classification on the above basis. The assumption seems to be that no part of the country could be naturally sterile and that deserts were the result of *Kurinchi*, *Mullai* or *Marutham* losing its individuality and natural fertility and deteriorating into the condition and not a primary and natural condition. It was given the name *Pālai*. It was not the name of a flower. Sterile and unusually uncultivable land was called *Vārpulam*.[4] A regular desert was a *Śūram*, a difficult terrain inculding hard rocky stretches of land. A kind of gradation of climato-geographical features is the peculiarity, and in ancient Tamilakam, it is from the hills to the sea involving jungle, scrub-land, fertile plain and coastal littoral. Five different physio-cultural zones have been distinguished.

The four-fold division of the country (except - *Pālai*) into *Kurinchi*, *Mullai*, *Marutham* and *Neithal* is an index of a degree of variegated and to some extent exclusive socio-cultural, life of the country the norms differing in each of these physiographic divisions. The indigenous cults were *Kurinchi* and *Mullai* based and economic wealth was produced by the sea-faring people of the *Neithal* tract with their salt, fish and pearls. The people of the *Marutham* seem to have received and conserved the impulses moving into Tamilnadu by land routes. Pepper from the hills, sandalwood and ivory from the forests, rice from the plains and pearls from the coast were largely exported,[5] to fetch gold which gave the Tamils monetary solvency. The maritime bias of the Tamil country was fundamentally nurtured by its geographical location. Before the monsoon wind patterns (attribute to Hippalus - Greek) were discovered in the first century A.D. there.

was no great ocean-going trade and boats that almost always hugged the coast, (Korkai, Puhār etc., seem to have become ports from the early historic times after the monsoon winds) swung round the Cape-comorin and reached the ports of the Bay of Bengal. The Tamil-land virtually became the 'Mistress of the Indian-Ocean' with its fleets reaching Jāva and Burma on the one side and Aden and Arabia on the other. In the pre-christian centuries there had been undoubtedly some maritime links which largely must have kept to the coast. Wherever it was not possible, to keep to the coast hazardous and adventurous voyages were under-taken. Early contacts of foreign racial strains and cultures with the southern coast could have come mainly this way.

Tamilnadu had been functioning within the geo-graphical barriers on its north formed by the west-ward swinging Eastern ghats and on its west by the Western ghats. The increase in the incidence of habitations must have been gradual and directly related to the physiography of the entire terrain that constituted Tamilakam. The most ancient stone-age culture is reported to have flourished in the northern most part in Chingleput and North Arcot. The successive develop-ments of the stone-age culture have been found more and more in the southern-direction. This probably sug-gests a relatively unfriendly climate nearer we proceed to the equitorial belt as well as lack of suitable raw-materials which were necessary for the fabrication of tools. Geography and geology have been direct factors controlling the incidence of stone-age cultures in Tamilakam.

The coastal area of Tamilakam had different types of physiography, e.g.; Marshy wetlands in the Thanjavur district, hard ferruginous ground in Rama-nathapuram and Tirunelveli combined with a highly calcareous sub-soil at places.[6]

The bounty of nature in the Tamil country had manifested itself in the River-valleys and thick forests. From Peṇṇar in the north to Tāmraparṇi in the south, many rivers have been rendering the country fertile. The Anthology *Puṟanānūṟu* makes mention of Ān Poruṇai, Kāviri, Kumari, Pahruḷi, Poruṇai, Kari Āṟu, Peṇṇār and Vaikai. River Kāviri is described as the very "Mother of humanity"[7] The river is called 'Kāviri' in Saṅgam literature and Kāvēry and Cauvēry are corruptions of Kā-viri. "Poruṇai" and "An Porundam" are mentioned. The names being almost synonymous, it is to be taken that the names applied to a single river. They are described as encircling the ancient Chēra capital of Vañchi. This River is to be distinguished from the other Poruṇai, popularly known as Tāmraparni. The Greeks corrupted Tāmira Poruṇai into "Taprobane" and used the name to indicate Ceylon also.[8]

The name 'Pahruli' seems to refer to a mountain as well as a river.[9] In *Puṟanāṇūṟu*, this name refers to a river, and is located within the jurisdiction of the king *Netiyōn-Vatimpalampa ninṟa Pāṇḍian*. The commentator suggests that the river was created by Netiyōn. It is difficult to support this conclusion with internal evidences at our command.

"Kumari" is a familiar name in the geography of the Tamil country. Currently it is equated with "Cape-comorin", where three oceans meet. The commentator of Verse 6 of the Anthology *Puṟanāṇūṟu* says that "Kumari" represents a river and is the name of the Goddess of virginity. "Kumari" lends itself to be rendered also into *Kanni* . However the text, namely Verse 6 of *Puṟanāṇūṟu,* does not specifically refer to it as a river. *Vañchikkāṇtam* of *Śilappathikāram* describes Śeṅkuṭṭuvan's journey to the north, the second made by him, the first being as pilgrimage with his mother to the Ganges.[10] The reference here to purificatory bathing in the Kumari may mean either the River or the Ocean adjoining Cape-comorin. At present,

there is no river in the neighbourhood of Cape-Comorin nor a mountain of that name. Commenting on *Śilappathikāram* the commentator Atiyārkkunallār says *Kumarikkāḍu* (meaning Kumari Hills) was engulfed by the Ocean. However *Puranāṇūru* does not refer to "Kumari" as a mountain.

The river Vaikai alternately known as Vaiyai is reported to have taken its course touching the traditional Pāṇḍyan capital "Kūḍal".[11] This river Vaiyai which in the Śaṅgam age is reported to have touched 'Kūḍal' is today at about a mile's distance from Tirupparaṅkunṟam and Paḻankānaththam. It takes its course now touching the northern end of present Madurai. Probably, the river had changed its course.

Two rivers by name 'Peṇṇār' are mentioned. The 'South Peṇṇār' seems to have been referred to as 'Peṇṇai'.[12] This river meets the sea at Cuddalore and is just south of Palar. The latter river Pālāṟu is not mentioned in *Puranāṇūṟu.* The land through which South Peṇṇār flows is known as *'Nāṭu'*[13] (Middle country). Another river mentioned in *Puranāṇūṟu* is *Kāri Āṟu.*[14]

Mountains had a strange attraction to the Tamils. Lord Muruka, the great God of the Tamils, was a veritable Olympian and he resided on mountains. Vēṅkatam is always mentioned as the northern frontier post of Tamiḻakam.[15] Kutakumalai, the western mountains ranged from Coorg to Ānamalais. Kaṇtīram,[16] Kutiraimalai,[17] Koṅkāṇam,[18] Kolli,[19] Kōdai,[20] Totti,[21] Toṇdi,[22] Nañchil,[23] Parampu,[24] Pāyal,[25] Pūṅkunṟam,[26] Podiyil,[27] Muthiram,[28] Mūthūr,[29] Virāchi[30] -- are all referred to.

Spatial

The Tamil country in the Śaṅgam age was ruled by three crowned monarchs and many lesser chief-

tains.[31] The country comprised the entire area to the south of a line that may be drawn to connect Bangalore with Madras. It was called Tamiḻakam or Tamilnadu. The major political divisions of the country were the Chōḻanāḍu, the Pāṇḍyanāḍu and the Chēranāḍu. Chēra-nāḍu was called Kuḍa-nadu (Western country) though Kutaku or Kutaku-nāḍu in a restricted sense came to mean modern Coorg only. If the rendering of a Mohenjo-Daro pictograph as "*Kārmukil* Malayāḷam-nāḍu" (the Malabar of the rain clouds) is admitted then Chēra-nāḍu must have been in existence as a distinct geographical and political entity trading with the cities of the Indus Valley as early as B.C. 2500.[32] The Chōḻas held sway over the fertile Kāviri delta. The Pāṇḍyas ruled over the predominantly pastoral districts of the Tamil country -- Madurai, Tirunelveli and Ramnad districts. The chieftains occupied mostly the fringes, particularly the hilly tracts.

The entire area was divided into many *Nāḍus* like Kāttu-nāḍu,[33] Koṅku-nāḍu,[34] Kari-nāḍu,[35] the Parampu,[36] Peṇṇai-nāḍu,[37] Malai-nāḍu,[38] Mēvōk-kam,[39] Mukkāval-nāḍu,[40] Vēṅkata-nāḍu[41] and Kō-nāḍu.[42] *Kāḍu* and *Kān* both mean forest in the tamil language. Probably it was a part or the whole of the present district of Ramnad. The town 'Kānādu-kāttān' (at present in Chettināḍ) was perhaps situated in the midst of *Kā-nāḍu*. The geography and terrain of the country-side of that district justify the title *Kā-nāḍu*. The inhabitants of this place were *Kānavar*. A class of people in the area are known as *Vallambar*.

Koṅku-nāḍu, at times formed part of the Chēra kingdom and at other times, it seems to have functioned as an independent political unit. *Śilappathikāram* refers to *Koṅkiḻam-Kōśar* who must have ruled from Koṅku-nādu at least when Seṅkuṭṭuvan was the Chēra king. *Palyānai śelkeḻu kuṭṭuvan,* the hero of *Pāṭṭu* III has the conquest of Koṅkunāḍu as the crowning achievement of his military career. It must have been composed

of the districts of Salem and Coimbatore. During the Śaṅgam Age, it must have included the north and north eastern parts of the Coimbatore district and the western part of the Salem district. The northern part of Salem was near Karināḍu and the eastern part nearer the junction of the Chēra, Chōḻa and Toṇḍai-nāḍus. It is necessary to remember in this context that the boundaries were altered with every turn in the political fortunes of the ruling dynasties.

The pre-history of Tamiḻakam stretches as far back as the old-stone age. Pre-historic researches in this area by Krishnaswami and exploratory trail of Bruce-Foote located the rich vestiges of early man in the riparian stations at Aṭṭirampākkam, Vaḍamathurai, Mañjanakkaraṇai, Erumaiveṭṭipāḷayam, Oḍappai -- all in the Korṭṭalayār valley.[43] This was the oldest course of the Pālār river.[44] The distribution of middle stone-age relics has been noted on a wider region almost upto the southern limits of Vaikai valley in the south with centres particularly located in the Pudukkōṭṭai tract on the one hand and Ramanathapuram on the other. The exact nature of their chronological context is not known at present.

This regional division of the Tirunelveli District is well discussed by M. Muthukrishnadas.[45] The Flora of the District combined the characteristic features of the Malabar and Coromandal coasts on the one hand and Ceylon on the other.[46] As for fauna, the pāṇḍya country is not noted for any special breed.[47] The Anthologies (particularly *Puranāṇūṟu)* contain copious references to the Flora and Fauna of Tamiḻakam.

In the Neolithic period, man exhibited three important elements of semi-urban settled life namely agriculture or farming, domestication of animals and pottery. "The Neolithic impulses in Tamiḻnadu which drew their inspiration from the lower Deccan centres and throve on a copious supply of basaltic or doleritic

nodules for the tool-making were restricted to North-west Tamilnād".[48] The interior of Tamilnādu seems to be untouched. 'Salem sites' are said to be a class of their own within the southern neolithic culture. Richards observes "Palghat, part of Salem goes with the Koṅku country in the Karūr, Nāmakkal, Salem, Tiruchcheṅgōde and Ōmalūr Taluks, while Baramahal goes with Toṇḍaimaṇdalam and Mysore and the Rayala-seema hinterland to the north. Hence Salem district was too poor to support a capital, a dynasty or an army of its own and too important strategically to be left in peace".[49]

The Iron-age culture development brought enduring patterns of agricultural endeavour and semi-urban habitational growth to the bulk of Tamiḻakam. One and all of the ancient sites in Tamilnadu, the urban vestiges start occurring only from the early historic period and a hiatus obtains between the stone-age culture and these. The urban dwellings occur only during the latter part of the Megalithic culture and are the direct evolutionary extention of the local culture. The rise of a classical period could be plausibly related to this early historic era.

Tamiḻakam seems to have been inhabited by tribes, who were evolving their own states and politics and were responsible for the numerous pathways throughout the area and the roads that penetrated into the jungle.[50] "It is but appropriate that these kingdoms were a development on the indigenous tribes and the formation of such kingdoms marked the evolution from the tribal stage to settled life. The physical features of the land did not permit these settlers to consolidate themselves into larger states. Hence, the states were small self-dependent groups. Having been founded on ancient river beds with ever flowing waters and protected by the sea on the one hand and the mountains on the other thy continued to flourish" .... "The *Mārkaṇḍēya Purāṇa* refers to the Dravidas (People

of the south) as 'Mahārṇavas' or living near the coast, and this reference is probably to the coastal areas in the south."[51]

Silappathikāram mentions the names of many Chera kings and lists their achievements. Kumulūr is one of the places mentioned in this work, possibly Ptolemy's 'Kourellur'. It still exists as Kumiḷi in north Travancore, an almost deserted village at the foot of the hill.[52] Kanakasabhai Pillai concludes that the earliest inhabitants of South India were *Villavar* (bowmen) and *Mīnavar* (fishermen) and it may therefore be accepted that these people lived either on the coasts or in the thickly forested hills.[53] "The former being more accessible, came into contact with other people and developed a civilised life while the hill-men and the foresters cut off by native barriers continued to be the same old uncivilised men unaffected by the rolling of ages".[54]

K.C.Mammen traces the settlements of the pre-dravidian Negritos and Proto-Austroloid people of the Neolithic age.[55] They lived in the forests depending on the game for their livelihood. They had a tribal organisation with a head-man, living in villages knit together by social and religious ties.[56] The centrifugal force in these villages was the common place of worship, the seat of the village headman or village assembly, where the people gathered to discuss clan rules. Baden Powell speaks of such villages as existing in the Dravidian period.[57] It was only when nomadic life gave way to a more stable existence based on agriculture that settlers formed clans and groups, and locality or territory became more important than social or religious ties.[58]

The Kēraḷōḷpatti and the Kēraḷa *Mahāthmyam* also provide us with information. These speak of Parasurama the divine incarnation of Vishṇu, who brought Ārya brahmins from the Ārya country and settled

them in sixty four villages along the coast of Kerala. As evidenced by these sources, the Brahmins decreed that four villages should govern all the sixty-four and subsequently that the chief of one village should rule the rest. Not satisfied with this form of Government, the brahmins then brought in rulers from Pāṇḍya-*dēśa* and Chōḻa-*dēśa* to govern for a period of twelve years each with the help of local assemblies. Following this decision a line of *Perumāḷs* succeeded as chiefs of Kerala. Whatever be the validity of these informations politically, it is of interest to us. The settlement built during this period developed with the activities and achievements of the kings. Thus we hear of the first *Perumāḷ* building the towns Aḷḷūr and Taḷayūr, the second, the town of Chōḻakara, the third being crowned at Paṟamba, and another living at Kōteeśvaram. Ārya-perumāḷ is credited with having divided Kerala into four divisions; another *Perumāḷ* is stated to have built Kennaṭte (mentioned in the Periplus) and a settlement near the River Naytara. Vijayam *Perumāḷ* is credited with the building of the town called Tirukkaṇṇapuram.

Since A.D. 333, the centre of attraction is claimed to have shifted from palaces and towns to village *Kūtams* or assemblies and settlements were built round them.[59] The existence of kingdoms is strengthened by Aśōka's Edicts,[60] poet Kāḷidāśa's *Raghuvamśa*, Sinhalese Traditions, periplus of Erythraen Sea and by Ptolemy's Kingdoms of the south or Dravida.

The main factors influencing the development of settlements were (a) activities of the kings, (b) Trade, (c) places of worship, (d) Village assemblies, (e) Agriculture.[61] The settlements were more compact, partly on account of insecurity of life and property and partly on account of the undeveloped condition of agriculture which was the main activity of the people. Ancient settlements are found near River Valleys or on a hill, or on an island in backwaters

which provide natural defences. They appear to have had a well ordered government with roads, buildings, tanks and reservoir[62] -- "almost corresponding to a feudal manor of the West".

The Arab, Greek and European travellers have left good information. The earliest mention of actual settlements in India in general and on the west-coast in particular is of trading settlements. By the beginning of the second century A.D. numerous descriptions are available of flourishing ports on the West coast, the inhabitants of which developed a vast system of trade. These descriptions refer but briefly to the settlements of the interior though detailed accounts are given of the manners and customs of the people.

Herodotus is one among the earliest (5th century B.C.) to mention the settlements in India.[63] His knowledge is vague and limited but his description is valuable as being the oldest existing records in the West of an ancient civilisation. The first direct account of the kingdoms of South India is that of Megasthenes. He makes mention of the ports of Kumari, Topina, Cottara, Bakare, Nelkynda and Musiris which have been identified as ports of the West-coast.[64] Research on the text of Pankon, a historical account of China in the Han-period has proved that there was constant trade between India and China in the second century.[65] China silk was exported to Egypt from several ports on the south-west coast of India.

Strabo (21 A.D.) describes India as a rhomboid with Cape-comorin as land's end.[66] Pliny the elder says (23 A.D.) that "the Indian seas were invested with pirates". "If the wind called Hippalus be blowing, Muśiris, the nearest port can be reached in forty days. It is not a desirous port of call pirates being in the neighbourhood ..... besides, it is not well supplied with wares for traffic ships, besides anchor at a great distance from the shores and the cargos have to be landed

and shipped by employing boats".[67] This great port is also mentioned by Ptolemy,[68] and in the Periplus,[69] the author of which is supposed to be Pliny himself.[70]

Ptolemy's map of India (2nd century A.D.) is distorted out of all recognition;[71] but he mentions among other places Nitra, Tyndis, Bramagara, Kalai-karai, Mouziris, Podopoura, Semne, Korcoura, Nelkynda, Bakarei, Mons-pyrrhus (Elankon of Ptolemy) and Komar (Komaria of Ptolemy).[72] Of these Naura has been identified with Cannanore[73] and also as Mangalore,[74] Tyndis as Tanur (by Yule)[75] as Kadalundi by Burnell[76] and as Poruṇai by Schoff. Local history names however Beypur close to Tanur and Ponnai on the river Beypur as a busy trading centre, the seat of ruling princes and probably the Tyndis mentioned in the Periplus.[77] Bramagara is a settlement half a degree east of Tyndis[78] (rightly south as Ptolemy's map is distorted): and *Kalai-karai*, a settlement near Cranganore.[79] To-day, there is a settlement in North Travancore called *Kaḍal-karai* which may be the one mentioned by Ptolemy. Yule, Burnell and Caldwell are aḷl of the opinion that Muśiris is Cranganore.[80] *Poudupara* has been identified as *Poudu patṇa* (New town) in Malabar.[81] Semme, a little to the east was a landing settlement.[82] Bakara or Bacare[83] was a coastal settlement west of Nelkyṇda and has been identified by V. A. Smith as Vaiḳkara, the landing place for Kōṭṭayam; Koroura was settlement west of Bacare. Nelkyṇda has been identified as Kallade[84] or Kennet in Travancore. Schoff identifies it as a settlement near Kōṭṭayam in Travancore.[85]

The Periplus mentions other settlements which have not been named by Ptolemy. For example, he speaks of Karūr as the capital of Kērobōthras.[86] This has been identified by Schoff[87] as Parūr of Malabar. Vincent Smith describes Vañchi[88] the ancient capital of the Chēras as Karūr and identifies it as Tiruḳkarur high up in the Periyar river. The Cottanāra of the

Periplus has been identified by Dr. Burnell[89] as Kolathināḍu, the district around Tellicherry. Vincent Smith however speaks of five *Nadus* or districts in Kerala and states that Kuḍdam, the land of the lakes about Kōṭtayam and Quilon represents Kōttanāra, the pepper country mentioned in Periplus.[90] In the sixth century A.D. Cosmos Indikopleustes mentions the export of pepper and coconuts from the great ports of Salopatra, Nalopatra and Poudopatra.[91] What is referred to is Ptolemy's Poudopara and the others were settlements situated on the coasts of Koṭtinarike, the pepper country or Cottanara of Pliny.[92]

These references amply prove that there were settlements in Tamiḻakam in the Saṅgam days. The earliest ones in general were situated on the banks of rivers. In all these settlements, Trade, Administration and Agriculture make it possible to distinguish a ground plan. V.V.Vadnerkar gives details of five types of pattern in the ancient towns.[93] In each case the temple is the central point; round it the town may be built in the form of a lotus or flower, a bow, a *swastika chathurmuka* (four faced), *prastāra* (square) or other forms. Towns and villages appear to have been divided into groups according to the number of roads they possessed in contrast to the present day grouping on population.

The width of the road depended on the size of the town. The zoning of the town was based on the occupation. People plying the same trade generally lived in a group and thus there were quarters within the settlement of brahmins, shoe-makers, blacksmiths and weavers.[94] The rules laid down by the *Arthaśāsthra* for the building of a town, which were based on caste, seem to have had a strong hold.

The main stages of the settlements can be summarised as follows. a) In the pre-historic period Tamiḻakam was inhabited by forest tribes of more or less nomadic

habits. b) At the dawn of the historic period, there existed an elaborate system of villages and towns partly lost in legend and partly proved by foreign authorities. The settlements were trading, administrative and agricultural, all of which had some emphasis on religion. In all types, there was a certain ground plan or pattern.

Economic Factors

a) Trade

The sea-borne trade of India in general and Tamiḻakam in particular was confined to the coastal regions from the west-coast to the Indus Valley and thence to the Red Sea.[95] Teak was the main article of export. Among the ruins of the city of Mugheir (3000 B.C.) built by Urea, the Babylonian king, a piece of Indian teak was discovered.[96] Rawlinson confirms this when he says "Logs of Indian-teak have been discovered in the Temple of the Moon at Mugheir and in the palace of Nebuchadnezer, 3000 B.C". Teak and Rosewood in the course of a thousand years were followed by spices, and jewels and articles of luxury. Moses exhorts the Israelites to bring spices for religious ceremonies and the rulers brought spices and jewels.[97] It is significant that only kings were in a position to supply spices which were then as precious as gold.

After five hundred years when King Solomon was ruling over the Israelites (B.C.970 to 930) his warships brought to his country valuable merchandise supposed to be from Muśiris. The 'Book of Kings' in the Bible mentions the fabulous and incredible wealth of Solomon. "Once in three years came the navy of Tharshish (Solomons) bringing gold and silver, ivory, apes and peacocks, and historians have recorded that gold was then mined in Wyanad and Nilāmbūr of Kerala and taken from Ponnāni river. (River of gold). "Ponnaṟippu" was then a tax on washing for gold in most of the Kerala rivers

and source of revenue for the Malabar kings.

It is mentioned that the Queen of Sheba presented spices to Solomon. They were considered more precious than gold. It is probable that ships from the west-coast had trade relations with Abyssinia too. "The king made a great throne (Solomon) of ivory and overlaid it with gold". The 'Book of Kings' also mentions that for giving a final touch to the mighty temple of Jerusalem, gold and ivory imported from Tamiḻakam were profusely used. The historian Bosworth Smith observed that the "gates of the city of Carthage were made of sandal-wood from the Chera country".

Herodotus is of the oipnion that the goods brought by the Arabs from Kerala were sold to the Hebrews at Aden and that, after the surrender of Egypt, to the Romans. Hippaulus, the Roman navigator with a fleet of ships sailed to the source of spice cultivation and thus reached Muśiris. In the Greek edition of Periplus Marinus Erythrae, it is given that the direction of the South-west monsoon and the short-cut from Red-sea to the west-coast were discovered by Hippaulus and henceforth the wind was called by the name.

The Roman historian Pliny (77 B.C.) remarked that the discovery of Hippaulus and the safe route to India emboldened the navigators from the Persian and Arabian gulfs to spring forward to Muśiris or Koduṅgaḷḷūr and that the voyage from Babelmandeb to Muśiris could be made in forty days. It is obvious that the Tamilian sea-men must have followed the same route. Since a large number of ships came continuously to Muśiris and returned home safely, the ships and crew of this origin were famous in foreign emporiums. The Tamilian crew had neither fear nor any misgiving of ill-treatment or piracy.

While discussing in detail the dealings of the phoenicians with Muśiris, Pliny complains that every year

they were sending to India £ 20,000 for getting silk, pearls, gems and spices. He also remarks that at the same time Malabar ships were visiting Persian gulf, Aden, the Red-Sea and Egypt. The Periplus mentions the landing and colonisation of Jews at Musiris. From a list of articles dealt with by the Israelites of Kerala we can have an idea of the produce and export items. The most important of them were Pepper, Pearls, Ivory, thin soft silk, arecanuts, diamonds, beryl, tortoise shells etc. The Greeks and later the Romans discovered that Java was peopled by Hindus and ships were manned by Hindus. Gold and Silver from Jāva and Śumatra; horses from Arabia and Persia; silk, copper, zinc, lead, wine and perfumes from other countries were imported.

An interesting feature of the movement of cultures into Tamilnadu is the 'Polarisation in the pattern of diffusion of the incoming impulses'. South Indian archaeology had unearthed 'Rouletted-ware' patterned after the famous Roman Arrentine ware. This ware had been found in a number of places in South India consistently at the mid-first century level. Almost all the places are distributed along the east-coast from Puhār in Tamiḻakam to Tāmralipti in Bengal, though a few like Uṟaiyur are situated inland. The west-coast sites have given different vestiges of Roman contacts.[98] They consist of Roman coins, both hoards and stray, amphorse, statuettes and bronze objects, but a variant polished ceramic which archaeologists call 'Red polished ware'. This indicates the Roman contacts being dissimilar in chronological contexts. May be that their entries into the Tamil country were achieved in two sets of colonies, one entering land-ward[99] and the other by maritime route. In a later context too, the Russet-coated ware with paintings on them is essentially found on the western part of the Deccan and lower down in the Karnātaka and north-western Tamilnadu.[100] It is less on the eastern flank. On the western flank too, in Tamilnadu it had become curvilinear in its

painted patterns, whereas those at the northern sites were rectilinear. These curvilinear painted wares side by side with the black and red ware had to a great extent seeped into the latter and become a mixed ceramic culture -- before they both completely faded away in the second or third century A.D.

This picture that we get from the accounts of the Greek and Roman geographers creates the impression that trade in the early historic times should have opened up the entire stretch of the coast-line involved in the busy landing of boats. But the incidental navigational traditions seem to have followed a certain adventitious practice. In Tamiḻakam, early historic, linguistic cultural pattern covered a coast to coast distribution. The three ancient kingdoms Chēra, Chōla and Pāṇḍya commingle in the Koṅgu tract forming the modern Coimbatore-Palghat zone. "It was here that Geography and History had conspired to circumvent and short-circuit navigational hazards involved in circum peninsular traffic and had given a mountain-pass and an arterial valley beyond, towards the east-coast which had, it seems; appealed to the early Romans".[101]

Wheeler projects the picture of Roman trade almost reaching the termini of their routes at Muśiris and Nelkyṇda.[102] These could be located in the vicinity of modern cochin harbour and Cranganore. It is probable that the Romans thereafter crossed the Palghat pass and entered the overland route along the Kāvēri to the eastern marts. The early chroniclers of the West give us an idea of Koṟkai (Colcoi) and Kumari (Cape). Surprisingly, at least eleven first century hoards (A.D.) containing hundreds of gold and silver coins have been found located in the Coimbatore District. At the same time there is the lack of an appreciable occurrence of gold coins in the early coromandel marts like Podouke, Śopatṇa, Kamāra, Colcoi etc. Perhaps, the bulk of Roman gold and silver coins disappeared as Bullion-value and was not in currency. This situation

can be partly explained by the fact that there was no corresponding local currency standard. The coins of the Coimbatore hoard do not go beyond the time of Emperor Nēro. He debased currency which slackened overland trade with India. The high ranges of Coimbatore-Palghat tracts is studded with pepper estates. Pepper formed one of the main items of trade with the Romans.

The Periplus bears witness to the existence of two kinds of Roman trading posts namely 'Nominon Emporion' (Lawful markets) and 'Enthesmon emporion' (Privileged market). In the latter, special legal provisions operated for the establishment of maritime posts by foreigners. The Pāṇḍyan pearl-marts like Koṟkai, probably were not operating as regular emporia. There is room for a surmise that the south Pāṇḍyan country was fully opened up for trade only by the first or second century A.D. If that is conceded, the general impact of foreign trade as well as civilian-movement must have been restricted to the latitude of Madura till then. The area further south must have been largely 'terra incognita' except for the coastal location. Archaeological evidence is largely silent on the inland activity of the south Pāṇḍyan area prior to the first or second century A.D.

b) Agriculture

The heritage of the Tamil country was shaped by the geographical or environmental factor. The environmental influence is marked in the socio-economic spheres though the innovations could not be tested by empirical methods. Of the Physio-cultural zones, the land in the *Marutham* was fertile. Cultivation was begun at an early stage of history. The *Perumpāṉaṟṟuppaṭai* describes the features of the *Marutham.*[103] The invention of Agriculture was the beginning of civilisation.[104] It involved a really settled society and the assurance of a food-supply.

Tolkāppiyar delineated the characteristics of particular regions on the assumption that the specified characteristics were the dominant features. He held that in the same region features distinctive of another region may be witnessed. It is therefore necessary to remember that it is an assessment of the principal characteristics of each region. The ecological zones are not isolated from one another. The tillers were the linch-pin and they really supported the rest of the population. Agriculture was the principal occupation of the people of the *Marutham* zone. Other zones interacted to produce their over-arching agrarian system. Their demographic economic and political interaction is a continual factor of agrarian development. The need for control of resources protection and extraction were met by the inhabitants themselves of *Marutham* to begin with.

The balance between habitable tracts and unsuitable terrain in central Tamilakam has been one of the key factors in the growth of agricultural potential. The coastal strip of Thanjavur district heavily water-logged should have been unfit for sporadic habitation even, not to mention permanent settlements. The irrigational activities of the early Chōḻas of the historic period made the country fit for cultivation and occupation. In the pre-Christian centuries apparently the Kāvēri delta must have started within a few miles of Tiruchirappalli with the original Kāvēri meeting the sea near Puhār and with the other branch Koḷḷidam flowing further north to join the sea near Porto-novo. There are references in the Śaṅgam classics to the reclamation of forest lands. The Chōḻa Karikāla II is stated to have undertaken the reclamation of land and settled farmers there.[105] It is learnt from *Maduraikkāñchi* that paddy was cultivated on the slopes of hills after they had been cleared of thorns and bushes as well as valuable trees like *Akil* and Sandalwood.[106]

It is not easy to ascertain the population of Tamiḻa-

kam. Systematic population studies before 1881, have been absent.[107] At our present state of knowledge certain generalisations can be made pertaining to the nature and distribution of population. Social stratification among the early Tamils was based on physiographic distinctions. The five-fold divisions *Pālai*, *Kuriñchi*, *Mullai*, *Marutham* and *Neithal* are clearly mentioned. The residents of these regions came to be known respectively as the Maṟavar, Kuṟavar, Āyar, Uḻavar and Parathavar. The distribution was largely conventional. Transgressions of the regional barriers in respect of occupation was frequent. From internal evidences it appears that the Kuṟavan of *Kuṟiñchi* could settle in the *Mullai*-land and become an Āyar (cow-herd); if he migrates to *Marutham* and took to cultivation he would become an Uḻavan (Agriculturist). Likewise an Uḻavan might become a Kuṟavan. In respect of the Parathavan, his equipment was of a specialised nature. This fluidity is suggestive of the fact that 'Commodity -- Production' and 'Private property' had not developed enough.

In the Tamil classic *Puṟanāṉūṟu*, there is an unmistakable reference to Tuḍiyar, Pāṇar, Kaḍambar and Paṟayar.[108] K.K.Pillay observes that "it does not seem too much to consider them as the only four indigenous communities".[109] Commenting on this Verse, Nilakanta Sastri writes "There are only four castes namely Tuḍiyan, Pāṇan, Paṟaiyan and Kaḍampan .... these castes .... were of very great antiquity, perhaps survivals from pre-Āryan times".[110] The castes are specified by different names namely Anthaṇar, Araśar, Vaiśyar and Veḷḷāḷar in the *Tolkāppiyam*.[111] This grammar is to be taken as considerably ante-dating the Śaṅgam works. The terms Vaiśyar, Veḷḷāḷar and Śudras are not found in the Śaṅgam Classics.[112] In view of the literary evidences cited above, the social constraints that we hear of in early Tamiḻakam are to be deemed as the products of transactional relations within the *Marutham* zone.

Pāṇan, Tuḍiyan and Kaḍambaṇ seem to have been habitually nomadic, but had temporary settlements where they stayed for a short while during their wandering career. These occasional and temporary settlements must have been styled as *Chēris*.[113] The people of the *Marutham* proper shared the staple crop rice, with the people of the *Chēris* who invariably supplied the social needs of the agricultural community of the *Marutham*. Cultivable land at this stage must have been limited. Life no doubt had become free from the daily threat of annihilation in the struggle against the forces of nature. But the backwardness of productive forces still demanded more of human labour. Individual labour had the capacity of producing more than it consumed. Man's labour power produced more than what he consumed which consequently proved that one could live on the labour of another though the primitive nature of the productive forces gave no ground for such a thought. Excess paddy was stored in *kaḷañjiyams*. Variety was absent because of the backwardness of the instruments of production. There had not been the question of division of labour. Perhaps that accounts for the non-mention of caste names in the Śaṅgam Classics. If at all divisions existed, it must have been temporary and could not have crystallised into a stable permanent economic interest. Population had not grown sufficiently large for division of labour.

Another peculiar feature is the absence of standing army. *Yēr* (plough) and *Pōr* (battle) are twins. *Yērkaḷam* is the thrashing field and *Pōrkkaḷam* the battlefield. Dedication to agriculture was *Yērkaḷa vēḷvi* and sacrifice at the battlefield was *Maṟakala vēḷvi*. The Uḻavar were efficient tillers of the soil and at the same time valiant warriors. The poets and bards frequented *Yērkaḷam* as well as *Pōrkkaḷam*.

The bio-geography of ancient Tamiḻakam is not very much directly related to the present study and

hence by-passed. The anthologies do refer to the variety of Flora and Fauna. In the preface of the Editions of the anthologies usually the editors give a detailed list. The incidence of their benevolent and malevolent consequences are negligible in the context of urban growth of ancient Tamiḻakam. Urban-growth with reference to physical and spatial geography is dealth with making use of the information available to us in the sources at our command.

III

LOCATION OF SITES

The geographical system of an area plays a crucial role in the emergence of Urban sites. In ancient times when the transportation system was not either efficient or easy, cities depended for their survival on the neighbouring hinterland. This explains the cause why fertility and other qualities .of a region proved decisive in the context of urban growth. Of cities which have evolved unconsciously, sea-coast, a river valley and so on mostly favoured their growth. Many cities have grown round temples too. People congregate in pilgrim centres; trade and commerce flourish and cities in the real sense of the world evolve. There had been a mutual attraction of temples to natural surroundings and of cities to temples. Spirituality and morality, cleanliness and Godliness, commerce and religion interact in the social well-being of the people. The great shrines of Tamiḻakam are almost always associated with some unique manifestation of nature. Poet Naḳkīrar bears testimony to this fact when he says "God is pleased to reside in forests, in groves, in islands created by the

confluence of rivers, on river banks, tank bunds, in all places of public worship, in squares in the heart of towns."[1] These lines give us the key to the proper understanding of the factors underlying the rise of urban sites. The limitless expansion of the vast ocean with its ports, the meandering course of great rivers, the estuary where the rivers empty their contents into the sea, the confluence of mighty rivers have all played a significant role in the location of sites. People also have flocked to centres of commerce-sites, the admirable situation of which had ensured an unfailing water supply, abundant food for all classes and places which afforded protection against surprise attacks. A clear coast-belt, a natural river or hill boundary easy of access in war and peace alike had influenced location.

It is possible also to suggest that there were urban-centres though economic in nature, whose 'raison d'etre was basically its geographical location'.[2] There were certain urban centres which were established by individual initiative, the individual invariably being the king. Our literary sources sometimes make us believe that cities were established by mystical persons and they were named after their founders. Such traditions merely indicate a probable method of naming the cities. It is true that urban growth cannot be explained by a single factor. There had been various determinants. Though one factor or other had been prominent, even cities formed for diametrically opposite reasons tend to grow structurally similar as they increase in size. This implies that cities of any particular region despite their different functional basis will tend to have a somewhat similar socio-economic pattern together with a somewhat uniform urban culture.

The ancient Tamiḻakam is one of the greatest city-making regions of the world is beyond doubt. Villages were the normal territorial residential units. They were surrounded by the cultivable land owned

by the farmers residing in villages, self-sufficient in cultural and economic matters with the inevitable temple in it; it was the centre of rural activities. The average size of the population of the village can not now be definitely determined. Whether large or small, residential areas were called *Ūr*? — is again a difficult question to answer.[3] The root-meaning of this tamil-word as well as its affiliation with Mesopotamian *Ūr* are yet matters of hot-debate. Probably, very small hamlets with only few inhabitants were called ***Sirūr***.[4] The tamil word *Nakar* is used variedly in ancient-tamil literature.[5] It means a house, a temple, a palace or a castle and also a city. Probably, this usage gives the clue that the separate items should be so co-ordinated and each assigned an important place in the city as to contribute efficiently to town life.

Quite a considerable list of names of small towns as well as cities besides a few places outside Tamiḻakam in India and overseas are furnished by the Śangam-Classics. The well-known capitals of the Mūvēnthar apart, we have the names of chief towns of local chieftains as Takadūr of Atikamān, Koḷḷi of Ōri, Parampu of Pāri, Ēḻil of Nannan -- all of the *Kuriñchi* tract; Vēlūr, Ollaiyūr of the *Mullai* country, Ambar, Aṭṭavāyil, Aḻundai, Ērkāḍu, Kudavāyil, Uranthai of the *Marutham* zone and Kāvērippūmpaṭṭiṇam, Marmakūrppaṭṭiṇam Eyilpaṭṭiṇam, Korkai, Toṇḍi, Muśiri of the *Neithal* strip.[6] Some of them have been marked out as famous religious centres of pilgrimage with their temples as of Ālamurram (Madurai), Ālavōi (Tiruchendur), Tirupparaṅkundram, Māliruñchōlai (Aḻakarkōil), Irunḍaiyūr, Araṅgam (Srirengam), Ērakam, Āvinankuḍi.

Towns are called generally *Paṭṭiṇams*, particularly those near the sea-shore. Kāvērippūmpaṭṭiṇam the capital of the Chōḷa kings, was at the mouth of the river Kāvēri and is a good example of a sea-shore town. Vañchi, the ancient seat of the Chēra kings

was a fortified city. This city appears to be a conscious creation designed to carry out set objectives. Sometimes a palace or temple is taken as a starting point and houses are built around them.[7] This suggests that the lay-out of a village or city had proceeded on rational lines with reference to the practical requirements of an orderly growth of the houses and of future development of the city.

Though there are many references, for purposes of our analysis Ālavōi, Vañchi and Kāvērippūmpaṭṭiṇam are taken as models. There can be no doubt about the antiquity of these cities. Vivid description of these cities is available in literature. Such descriptions touch upon several points of interest relating to their growth in ordained environments.

Besides being a temple-city, the city of Madurai of Śaṅgam times had been planned to safeguard it against surprise attacks of hostile forces. The earliest of the datable records in which allusions to the city of Madurai seem to be traceable are -- the early Brahmi inscriptions incised in caverns in the Siḍdhar malai and A̲lakar malai hills, not far distant from Madurai. The inscriptions probably belonged to the third century B.C.[8] It is not improbable that Madurai is really mentioned in them.[9] The next of the datable reference is to be found in Pliny (77 A.D.). He makes mention of the "Meditteranean Emporium of MADOURA". *Paṭṭinappālai* and *Maduraikkāñchi* mention the temple at Madurai.[10] Obviously the city must be as old as the Śaṅgam age. The temples to Viṣṇu and Sundararāja are also referred to in poems assigned to the Śaṅgam period.[11] However these are not infallible and it need not be concluded that the city could not have been found before third century B.C., nor the temples raised before the third century A.D.[12] The absence of positive evidence is no ground to assume a conclusion in the negative.

Copious references are available to highlight the location of Madurai (Ālavōi-Kūḍal) of the Śaṅgam age and its environs. *Tirumurukāṟṟuppaṭai* affirms that Kūḍal was to the east of Tirupparaṅkuṉṟam. At present Tirupparaṅkuṉṟam is to the south-west of Madurai. *Tirumurukāṟṟuppaṭai* describes the fields that lay between Śaṅgam Kūḍal and Tirupparaṅkuṉṟam as follows: "To the west of Kūḍal and to the east of Tirupparaṅkuṉṟam there are ponds with lotus flowers. Bees settle on these flowers to gather honey. As the lotus closes its petals at sunset, the bees remain and rest inside the flower. At sunrise when the lotus unfolds, the bees came out and flutter about the Sunai flowers of the pond at paraṅkuṉṟam".[13] *Parīpāṭal* refers to the river as coming down from Irunthaiyūr when it speaks of the God Perumāḷ of the place: "The river coming down from the mountain passes through Kūdal, became sweet and then passed by Irunthaiyūr".[14] This means that Kūḍal and Irunthaiyūr were two different places. Two of the Śaṅgam poets are known bearing the names Irunthaiyūr Karuṅkōḻi Mośiyar and Irunthaiyūr Koṟṟam Pulavan. They must have been natives of Irunthaiyūr. Had Irunthaiyūr been a portion of kūḍal, the name of the larger territorial unit must have been mentioned to make the nomenclatures of the poets different.[15] The names available to us in the Classics suggest that Irunthaiyūr was not a portion of Kūḍal. River Vaiyai of Śaṅgam age touched Kūḍal and Irunthaiyūr of Kūḍalaḻakar temple.

Kallāḍam mentions the names of places that surrounded Kūḍal.[16] From the reference we come to know that Tiru Ālavōi, Tirunaduvūr, Velliyambalam, Tirunallāṟu, Kariyon Tiruvurai and Paravikuṉṟam were places surrounding Kūḍal. The commentator Nachchinārkkiniyar in his commentary on the twenty-second verse of *Kaliṭṭokai* has pointed out that Kūḍal was called Nanmādakkūḍal because of the fact that Kūḍal was the meeting place of four towers (*Maṇṭapās*) -- Tiru Ālavōi, Tirunallāṟu, Tirumuḍaṅkai and Tirunaduvūr.

Scholars assign to the commentator the date 14th Century A.D. Evidently the above mentioned must have been the creations of the Vijayanagar kings. Kallāḍar speaks of the places as surrounding Kūḍal and Nachchinārkkiniyar speaks of them as converging together into Kūḍal. This development, evidently must have been after kallāḍar and before Nachchinārkkiniyar, in all probability during the period of occupation of Madurai by Vijayanagar kings.

The capital of the ancient Chēra kingdom is admitted on all hands to have been Vañchi or Vañchimānakar. Which city of the present times was Vañchimānakar is a matter of controversy. For our purposes, here, we refer to the town as 'Vañchi of Śangam days'. The controversy over the identification of Vañchimānakar is not new and it seems to have raged from the thirteenth century A.D. and scholars are yet to agree as to which it was.

Akanāṇūṟu Verse 93 gives the information that "the valorous deeds of Kōtai (Chēra) of the tall chariot are as numerous as the sands in the dunes against the high banks of the river Taṇṇānporuṇai (Amarāvathi).[17] *Puṟanāṇūṟu* says that "Powerful Vañchi irrigated by the cool waters of Poruṇai [18] -- and famed as far as the heavens". "The Lord of the people of Vañchi surrounded by the cool Poruṇai"[19] -- The sands in the bed of the roaring Poruṇai which leaves the outer walls of Vañchi."[20] Yet another vivid description in the anthology *Puṟanāṇūru* is as follows "Oh, lord of all the beautiful country surrounded by falling waters, rich with money and fat fish, from the rice fields where reapers bind sheaves intermixed with peacock feathers; if you ought to know who this fine warrior that sets his elephants like the death dealing Yama is ....".[21] The tutelary divinity of the town is known as "Vañchiamman". God Śiva of the temple north of Amarāvathi is known as "Vañchuḷēśvaralinkam".

Valuable information about the environment is furnished by *Paṭṭinappālai:* "You, who are not only like the cool rippling Cauvēry which bends its course straight to the east, but also deep like the confluence of the flower bedecked waters of your three rivers".[22] This reference seems to provide the clue that the three rivers Kāvēri, Amarāvathi, and Kutavanār mingle their waters, and it is from this confluence that Kāvēri seems to flow east-wards and perhaps affirm that Vañchimānakar was on the banks of Amarāvathi. But this assumption cannot be and need not be pressed far for purposes of our theme.

Vañchimānakar, whether an inland town or a sea-port town must have been not far from the Western sea. Iḷankō Atikaḷ in referring to the journey of Chēra Śeṅkuṭṭuvan with his large army says that the king started along the sea-coast, diverged into climbing mountains and then descending to the plains went as far as the base of the hills.[23] -- called Nilgiris and there encamped for the night. Vañchimānakar it may be surmised must have been not far from the Western-sea.

Puhār, the 'Khabiros Emporion' of the Greeks is a very ancient site. The name means 'The Kāvēri town'. Puhār means the city at the mouth of the Kāvēri.[24] *Paṭṭinappālai* speaks of the glory of the city.[25] Many poets of the Śaṅgam age refer to the city and glorify its salient features.[26] The city was situated at the estuary where the river Kāvēri mingled with the ocean. It is however strange that the ancient classics refer to the city by names such as Mūthūr,[27] Pērūr,[28] Perunakar,[29] Paṭṭiṉam,[30] Puhār,[31] Pūmpuhār,[32] Kāvērippaṭṭiṉam,[33] Kāvēripatappaippaṭṭiṉam,[34] Nannakar.[35] Though the name Kāvērippūmppaṭṭiṉam does not figure as such, subsequent references in Tamil literature to the place leaves no room for doubt as regards the identity of the place known by various names as listed above. To understand the en-

vironment, explicit references to the river Kāvēri in Medieval Tamil Literature, particularly the Śaiva Psalms of Śambandar and his elder contemporary Appar are useful.

In the words of Śēkkiḻar, the Kāvēri delta has always been the "Abode of Lakshmi".[36] Karikāla, the first Chōḻa monarch, (generally dated as belonging to the first century of the Christian era) is claimed to have been the author of the irrigation system. To him is credited the construction of embankments, *hundred miles long from its mouth upwards*. Before his time, the district of Thanjavur must have been annually flooded, for it to get the name of 'Punal Nādu'. Earlier kings must have also bridled the wild flow of the River, the lower valley of which must have been full of swamps and wilds[37] in the dim past. Chōla-nāḍu is the creation of Kāvēri and its prosperity had always depended on it. By the time of Karikāla, the country in and around Puhār must have become less subject to periodic floods and been reclaimed; for, the growth of a big and flourishing city would have been otherwise impossible. The Kole-ron (Koḷḷiḍam = Koḷ-Iḍam) must have branched off before the time of the great king and carried away much of the surplus water. Perhaps the island Sriraṅgam is older than the Epic of the Anklet. Karikāla did enduring work to check the caprice of the Kāvēri and direct it into useful channels. Due to the embankments he raised, the Kāvēri must have breached again widely somewhere about the present grand Anicut where the Koleron runs on a lower level. To prevent colossal wastage of water which flowed from the Kāvēri into Koleron and serve as a safety valve in times of flood, Karikāla must have raised the Anicut at the eastern end of the island.

The Veṇṇar is probably more than thousand eight hundred years old. Karikāla is credited with a victory at Veṇṇil, evidently named after the river.[38] The

River is certainly older than the *Thēvāram* which has many hymns on Tiruvaiyāṟu (Five rivers). The 'Pañcha-nada' about the place are the Kāvēri, Koleron, Kuḍamuruṭṭi, Veṇṇār and Veṭṭār. There is no reason to doubt the cause for the place being so named. The Koleron sometimes called the Kottāṟu (Probably because it had a fort at its mouth) is mentioned by Śambandar and Appar. Śambandar speaks of the Koṭṭāṟu near his birth place Shiyāḻi. The Uppaṇāṟu mentioned in his very first hymn ill-deserves the praise.[39] Appar mentions the Koleron in Vijayamaṅkai.[40]

The antiquity of the branch 'Ariśil' is testified by evidences.[41] It is difficult to locate the various places mentioned on the bank of the River. They are Pamburam, Peṇuperunthurai, Puthūr, Ambarmaṅgalam and Thilathappathi.[42] Evidence available for Kuḍamuruṭṭi is inadequate. The boy saint speaks of it in association with Koḷḷamputhūr.[43] The River Kaḍuvai referred to in two hymns as taking its course touching Koḍavāsal is a branch of the Kuḍamuruṭṭi.[44]

Śambandar refers to Kāvēri as 'Old Kāvēri'. This is sometimes mistaken to be 'Paḻaṅkāvēri' a branch of the Kāvēri with its source a little ahead of Māyavaram.[45] But he refers to Kāvēri in his hymns on Nāgēśvaram and Kumbakōṇam. They are far ahead of Māyavaram. Hence it is clear that 'Kāvēri' referred to by Śambandar has a remote antiquity. The hymn on Vilanākar refers appropriately to the Kāvēri and the latter (Paḻaṅkāvēri) disappearing into the fields somewhere about the sacred place. It is quite likely that before the age of Śambandar, Kāvēri had changed its course. At any rate, there need be no confusion about their existence at that distant past. Speculation had been made if the ancient port of Puhār stood on the southern bank of the Kāvēri as Ptolemy of the second century A.D. makes us understand.[46] Tamil scholars locate the city on the north-bank where the present hamlet of Kāvērippaṭṭiṇam stands.

Tradition and few other evidences seem to suggest an altogether different site. It must have extended as far as Tiruveṅkādu about three miles from the present hamlet which contained the 'Śūrya' and 'Chandra' *thīrthas* of *Śilappathikāram* reference. 'Perunthōṭtam' near Tiruveṇkāḍu could have been an important suburb of the ancient city. To the south, according to tradition, the city must have extended into Tirukkaḍaiyūr about four miles from the present village of Puhār. If the latter tradition is admitted, the Kaveri must have cut the city into two parts. It is also likely that at one time the Kāvēri flowed to the north of the present hamlet and through Tiruvenkadu. Waters must have gushed towards Tiruveṇkāḍu at *'Mariththukkaṭti'* (Prevented and dammed). In the age of Śambandar, neither Svēthavanam nor Bilvavanam (Kaḍaiyūr) is associated with Puhār. Only Pallavavanam and Chāyāvanam are spoken of as part of a wealthy *Pattinam.*[47]

A net work of roads between capitals are as old as the Śaṅgam Age. The trunk-road along the Kāvēri was familiar to the ancients. The journey to temples undertaken by the Śaiva saints at a later date and the bards of the Śaṅgam age bring out the antiquity of the highways.[48] Pages could be filled by citing references to the green and smiling fields and the cool and dense topes of Tamiḻakam.[49] The inscriptions of the Pallava period too bear testimony to the fact.[50]

The references in *Thēvāram* hymns of the Śaiva saints though chronologically belong to a later period, give us an idea of the towns of ancient Tamiḻakam some of which find mention in Śaṅgam literature but lack in precise historical details. Towns and cities could not have sprung overnight. The references in *Thēvāram* hymn in this respect are very useful. Incidentally it must also be remembered that the date of the hymnists remain still a matter of controversy.

Manni is another river of the Chōḻa land referred

to as old Maṇni in a hymn of Śundara.[51] 'Bhavāni' one of the tributaries of the Kāvēri finds mention in the hymns of Tirugnānaśambanda.[52] The other rivers and streams that are found in *Thēvāram* hymns are the Ponmukari,[53] Pālār,[54] the Niva,[55] the Kampa,[56] the Peṇṇai,[57] the Katılam[58] the Pampa,[59] Maṇimuththānathi,[60] and Vaikai.[61] All these have been useful in varying degrees for irrigation. Some of these rivers seem to have been used for the purpose of floating down timber and also for transporting vegetables and other commodities.[62]

Long before the age of Śambanda, there were many 'Nēśandara' (weavers) and 'Amarneethis' (traders). The clothes, spices and pearls of Tamiḻakam were famous even long before the Christian era. We know from Sanskrit literature, early Tamil literature and Pallava inscriptions as well as the plentiful archaeological remains that Kāñchi on the Kampa was a big and splendid city. Sēkkiḻar's description of the origin[63] walling and the peopling of the city with the Veḷḷāḷas by Karikāla and the existence of the king's street and many shrines in the city[64] adds to our knowledge. It is interesting to read in a hymn of Śambanda that it was walled[65] and in another hymn that it contained broad streets.[66]

Mahābalipūr or seven pagodas is well-known to a student of Pallava history. In the *Periyapurāṇam*, a vivid description of the city is given, bringing forth its importance.[67] Pandit M. Raghava Iyengar had expressed the view that the town existed even in the Śaṅgam period.[68] In *Peruṃpāṇārruppatai* Katiyalūr Urithiran Kaṇṇanār, the Śaṅgam poet narrates the event of a poet directing another fellow poet to go to Toṇḍaiman Iḷanthirayan, King of Kāñchi and enjoy his benevolence. The prosperity of Toṇḍaiman's country and the road leading to kāñchi are described.[69] Briefly stated it reads "One can see within the limits of Nīrpeyarṟu, a harbour full of ships carrying horses from

western countries and merchandise from northern countries, streets full of store-houses of mariners, and light house in a highly elevated place as if it were a prop to heaven". It is probable that Nīrpeyarru had been the sea-port country of the Toṇḍaiman in the same way as Korkai to the Pāṇḍyas, Muśiri to the Chēras and Puhār to the Chōḷas. That Nīrpeyarru was not distant from the capital of Tondaiman is clear from the fact that it is the last town mentioned which had to be crossed before reaching Kāñchi.

Nīrpeyarru literally means that which receives the shower of the sea (Nīr + Peyal + thu) that is, the city that abounds in sea-borne goods. Tirumaṅkai Āḻwār expresses the same idea in one of his hymns on the shore temple of Viṣhṇu at Māmallapuram when he uses the phrase *Kaḷaṅkal-iyaṅkum maḷḷai ḳkatan maḷḷai* . It means Katanmaḷḷai (Māmaḷḷapuram) which is very prosperous on account of the in-coming and out-going ships. "Nīrpeyarru" is mentioned as another reading for the same by U.V.Swaminatha Iyer. This seems to be more appropriate since it denotes "That which has the name of the sea". 'Nīrpeyarru' and 'Katanmaḷḷai' denote the same place 'Mamaḷḷapuram'. From inscriptions we learn that 'Jalaśayanam' was the name of the shore-temple at Māmaḷḷapuram. It means the 'God reposing by the side of water'. Māmaḷḷapuram is also known as 'Talaśayanam'[70] from inscriptions from the Vishṇu temple there. The temple derives the name from the Śayana posture of the deity. All these evidences support the contention that Mahābalipuram was a famous sea-port of Śaṅgam days where ships thronged in numbers and busy foreign trade was carried on extensively. Perhaps Narasımhavarman I, the Pallava improved it on a large scale.

Early Buddhist literature too give us an idea of urban centres of the Chōḷa country. *Vinayavinichchaya* was composed by the Sinhalese elder Mahāsami Vacissara in about the twelfth century A.D.[71] In the Colo-

phon to *Vinayavinichchaya* Buḍdhadaṭta states that this work was composed during the reign of King Achchutha Vikrama of the Kaḻabhra clan. The identification of this king is yet to be settled. But the information useful to us is that the author at that time was residing in the town Būthamaṅgaḷa which was situated at the centre of the Chōḻa-country. The passage states "Uragapurēṇa Buḍdhadhaṭṭēna rachito" which means "Composed by Buḍdhadhaṭta of Uragapura". Dr. D.R.Bhandarkar identified Uragapura as modern Uṟaiyur near Tiruchirāpaḷḷi.[72] To quote him "In Aśoka's time there were more than one Chōḻa and one Pāṇḍya king. The territories of three of these ..... have been identified on the data supplied by Ptolemy and the author of the Periplus ...... the first is represented by 'Orthoura, the royal city of Sornagos' comprised in Soretai ... Orthoura has been identified by Cunningham with Uṟaiyur near Tiruchirāppaḷḷi. This was therefore the southern Chōḻa kingdom".[73]

Buḍdhadhaṭta says that he composed the *Vinayavinichchaya* while residing in the monastery built by Venhudasa (Kanakadāśa in some Mss) at Būthamaṅgalam. This town, he explains "was situated as the nave to a wheel in the heart of the Chōḻa kingdom and was very extensive, covered with plantations of coconut, palmyra, banana and sugarcane and was beautified with lakes and tanks full of water-lilies and lotuses".[74] In 1938, Miss C.Meenakshi of the Madras University, after much labour has identified this place with modern Paḷḷivrithi-Būthamaṅgalam in the Maṇṇārguḍi division of the Tanjore district. After locating this place, she published an article on the subject.[75] She states "Attempts have been made in recent times by a few scholars in locating this historical Būthamaṅgalam in the Tanjore district. The editbr of *Vinayavinichchaya* Rev. A.P.Buḍdhadhaṭta remarks in his introduction "At present there are several places in the country (Tanjore) having their names ending in Maṅgaḷ. But I am still unable to identify this Būthamaṅaala with one of these

places".[76] Later on P.T.Srinivasa Iyengar at the suggestion of K.R.Subramanian maintained that Būthamaṅgala is the same as Būḍalūr in the Tanjore district, but this identification was questioned by K.A.Nilakanta Sastri.

The monastery in which Buddhadhaṭṭa composed *Vinayavinichchaya* according to description is to be located in the heart of the Chōḻa country sanctified by the river Kāvēri. It is therefore necessary to look for Būthamaṅgalam in the Maṉṉārkudi Taluk which is centrally situated in the Tanjore district. There are two villages of the same name in close proximity. Apart from the one on the banks of the Kāvēri, the other is situated on the banks of the river Veṇṇār, a branch of the Kaveri six miles away from Maṉṉārkudi. This place appears to be full of archaeological potentialities and the people of the locality call this village as Paḷḷivrithi Būthamaṅgalam. Another village bears the name Paḷḷivrithi and is situated adjacent to this Būthamaṅgalam. As the name suggests, the land within this village could have been owned by the Buddhist monastery at Būthamaṅgalam.

His other works *Abhidammavatāra* and the commentary on Buddhavaṃśa were compiled while residing at Kāvērippaṭṭaṇa. In his own words "This town with a sea-port was prosperous crowded with people and lined with shops full of precious things". Vincent A. Smith identified this town with modern Puhār on the east-coast of South-India.[77] He remarks "Puhār also called Pukār or Kāvērippaṭṭinam, then at the mouth of Kāvēri river was for some time a rich and prosperous port. It, with the other ancient ports in this region is now desolate, a gradual elevation of land having changed the coast-line".

As said earlier, even in Buddhadhaṭṭa's time, there were localities more than one known by the name of Būthamaṅgala. To distinguish his Būthamaṅgala

perhaps he referred to it as 'Mangal Būthamangala'. It is evident from his descriptions that Mangal Būthamangala was just another name for Kāvērippaṭṭana or at any rate that of a Dyāragama or suburb of the same. Basing on the references available the following observations can be made: a) In the Nigamana to *Vinayavinichchaya* Buddhadhaṭṭa locates the great monastery erected by Vishnudāśa or Krishṇadāśa in Mangaḷa Būthamangala described as "porsperous and richly endowed in all respects".[78] It is placed in a central part of the Chōḷa country which "looked like an epitome of the whole world".[79] It was washed by the waters of the Kaveri. b) In the Nigamana to Buddhavamsa commentary, he substituted the name Kāvērippaṭṭana for Mangaḷ Būthamangaḷa and the same is the case with the epilogue to his *Abidhammavatāra*. c) It is to be ascertained if Mannār is the name of Mannārkudi Taluk.

The 'Saddhamma Śangaha' tells us that Buddhagōsha arrived at Nāgapaṭṭaṇa (Nagapatnam at the mouth of one of the middle tributaries of the Kāvēri) wherefrom he must have gone to Ceylon. Buddhagōsha before leaving the Indian shore resided at Kāñchipuram and other places including the Mayūrasuṭṭapaṭṭaṇa or Mayūrarupapaṭṭana which may possibly be identified with Māyavaram (Mylaḍuthurai) at the mouth of one of the distributaries of Kāvēri.[80]

The late Sivaraja Pillai, perhaps rightly observed that real recorded history of ancient Tamiḻakam begins with the achievements of Koṟkaipāṇḍian who fell fighting against his bitter enemy, an Aye chieftain mortally wounding him also.[81] Būthapāṇḍian's son Paśumpūṇpāṇḍian (alias Aḻakiapāṇḍian) renewed the war against the Āye chieftain and annexed his kingdom. Mr. Pillai attempts to construct a chronology out of the events, and we are interested in the casual references made in this context.

Ptolemy starts the Āye-territory at a point more than six hundred stadia, north of Cape Cory suggesting thereby the separation of the Āye from the pāṇḍyan kingdom sometimes in between the Periplus (c.75 A.C.) and Ptolemy (c.125 A.D.). The surmise of Mr. Pillai militates against the conclusion of recent studies like those of I. Mahadevan. Scholars now identify the Pāṇḍya king Neḍuñcheḻiyan of the anthology *Puṟanāṉūṟu* and his successor Veṟṟivel Cheḻiyan (Koṟkai) of the Epic *Śilappathikāram* with the Neḍumcheḻiyan and Iḻamcheḻiyan of a pre-Christian Jaina Brāhmi Dāmili epigraph in a cave at Pukaḻūr. The problem remains to be solved.

The Greeks were familiar with a place called 'Kolkhoi' in the Gulf of Mannār. It was a well-known city and the centre of pearl trade. 'Koṟkai' a leading metropolitan centre of the Pāṇḍyan kingdom, if not the capital, is likewise referred to in the Śaṅgam works. The location of this glorious emporium of trade remains to be satisfactorily conformed. The jewel *Kaḍal Āram* always meant the Koṟkai *Āram*.[82] *Maṇimēkalai* speaks of Koṟkai as the 'Old capital of the Pāṇḍyas'.[83] It is described as 'Pearl yielding Koṟkai'[84] and great Koṟkai.[85] Inscriptions too speak of Koṟkai in glowing terms.[86] *Akanāṉuṟu* and *Naṟṟiṇai* have good many references to this port.[87] These references do not include in their list 'Kavātapuram' generally assigned to Koṟkai.

The author on the commentary to *Iṟayanar Akapporuḷ* indicated that Koṟkai (Tamil) and 'Kavātapuram' (Sanskrit) were the distinguishing names of the port and ante-deluvian sea-port cities situated near the pearl fisheries.[88] Raghava Iyengar concluded therefrom that the tidal wave that washed away Kavātapuram must have been an historical event which could have happened after 300 B.C. but before 200 B.C. Quoting Tennents 'Ceylon' he surmises that the last mentioned deluge (306 B.C.) might have been the most probable one that caused the destruction of Kavātapuram.

References to the pearl-fisheries of the Pāṇḍyan coast occur in the writings of the Egyptian and Greek voyagers and historians. Periplus records that "Pearls inferior to the Indian sort are exported in great quantity from the marts of Apologas and Omana".[89] It is also stated that the inferior variety of pearls that the Tamils did not require for their use was in very great demand in the foreign markets. "Pearls were woven along with nice muslin cloth which was exported from Tamilakam.[90] We are given to understand that slaves and criminals were employed as pearl-divers in Korkai.[91] The most costly animal product that was imported from India by the Roman-Empire was the pearl from the Gulf of Mannār.

Dr. Wilson, Professor of Sanskrit -- Oxford, identified the 'Kolkhoi' of the Greeks with 'Keelakkarai' in Ramanathapuram district. In 1837, Rev. William Taylor traced an interconnection between the Napalese Gurkhas and 'Kolkhoi'. The fantastic and erroneous conclusions have rightly been rejected by Bishop Caldwell who asserted that 'Kolkhoi' and 'Korkai' are one and the same.[92] He contended that the Greeks wrote 'Kolkhoi' for 'Korkai' because of the sense of Euphony. Under his instructions excavations were conducted at the place now spoken of as 'Korkai' five miles away from the sea in the Srivaikuṇtam Taluk, Tirunelveli district, Tamilnadu. Among the finds two are of interest to us namely Sinhalese coins and two Jain statuettes.[93]

Pliny the Roman and the anonymous author of the Periplus distinctly specify that there was an extension of land to the south of 'Paralia' (Kumari-?) and that it was called coastal-country that had a gulf at the head of which was situated 'Kolkhoi' where the pearl fisheries are. These writers mention Cape Cory as the land's end Cape of India (Not Kumari) wherefrom the coastline turned eastwards and north-east towards the mouth of the Ganges. It seems therefore that the 'Kolkhoi' of the classical writers was

not the present site of Korkai situated near the mouth of the Tāmraparni on the east-coast.[94]

The foreigners have further noted that the Island of Ceylon called Taprobane lay directly to the South of the above said Cape Cory and was distant at least more than a day's journey from it. They declare that it extended several miles westwards towards Africa. As there are evidences to suggest that the Taprobane of the Classical writers had included South Ceylon, Maldive Islands and a belt of land across the southern off-shores of the present day Kanyakumarī at least upto the Laccadive Islands and since there had been at that epoch no continuous land area in northern Ceylon except a number of smaller islands lying between the Indian mainland and Ceylon; it stands to reason to infer that there had been a recession and extension of the sea submerging some portion due to extension and exposing some portion due to recession after the Christian era which might have brought about the modern geographical contours of India and Ceylon.[95] Therefore, it becomes necessary to disentangle the problem of identification of Korkai from the never ending controversy over the 'Lemurian theory'.

The Tamil Epic *Silappathikaram* seems to echo this incident of the sea changing its course in the post-Christian era.[96] *Kalittokai*, the Sangam anthology appears to confirm it when it remarks that the Pandya who compensated for his loss of territory due to the occurrence by his conquest of new ones from the Chera and Chola.[97] The well-known Tamil commentator Atiyarkkunallar (c. 12th century after Christ) gives us more particulars about the SEA CHANGE and not SEA EROSION. From his accounts we learn that the Pandya ruler at that time was Sey-makirtiyan and his Chera contemporary was one Vel-kumaran and the said lands lay to the south of a mount called Kumarikkodu between the river Kumari and another river Pahruli.[98]

The Tamil scholar A.Muthuswami Pillai of Yalpanam in his article entitled 'Kumari Aru' lists the river Kumari as one of the seven great holy rivers of India.[99] 'Kumari' does not figure as one of the holy rivers in the conventional invocation list of a caste Hindu. But ancient Tamil literature speak of an important bathing ghat by name Kumariththurai.[100] Its existence is corroborated by Periplus. K.K.Pillay identifies Pahruli with palayar and calls it historically the most prominent river.[101] Yet, it is difficult to be dogmatic on this identification since the surmise of Pillay is built on the debatable premise of the SEA EROSION referred to earlier. Pillay himself admits the possibility of the 'sea changing its course', when he declares 'there is no improbability of some land having existed in the past to the south and east of Kanyakumari'.[102] He further affirms that it is pertinent to observe in this connection that in historical times the sea has encroached upon land on the east as well as on the west-coast.

Atiyarkkunallar gives another information that some regions of the Chera namely Kumarikkollam and its adjoining villages including the southern point of the Kumarikkodu mount had been washed away. It is evident that this SEA CHANGE was a post-Christian catastrophe and future research may be able to fix its exact date. From evidences cited above, it is possible that Korkai was different from Kolkhoi of the foreigners. Considering the historical antecedents Korkai in all probability could have been in the coastal strip between the Valliyur and Cape-comorin.[103] "It is a misfortune for pre-historic and proto-historic archaeology that in South India, no ancient city has been found, the ruins of which reveal a succession of ages of building and habitation such as shown by Schliemann's excavation in Troy on the hill of Hassarlick. And still more Dr. Dorfields' extended and more systematic researches at the same place after Schliemann's death for they proved beyond doubt of the existence

of a city of Mycenean age which was Homer's Troy".[104] The late K.N. Dikshit had very aptly remarked "The entire field of paleolithic, neolithic and megalithic as well as iron cultures in South India is so vast and transcends in interest; investigation relating to historic periods, that it is likely to form a major pre-occupation for several years".[105]

The Sinhalese coins unearthed by Dr. Caldwell at the site referred to earlier warrant an investigation of the literary data provided by the Buddhist chronicles. Mahavamsa the 'Greater of the Ceylonese Buddhist Chronicles' speaks of the existence of two separate islands in the Indian ocean situated one south of the other which were united into a single one by the Buddha. After a short period it was again separated by Him, giving them the distinguishing names Lanka (Nagadvipa) and Giridvipa. The latter was entirely inhabited by Rakshasa demons. Nagadvipa which had been in the hands of the Yakshas was conquered by the Maghadan prince Vijaya (a contemporary of Buddha) and renamed Simhala. Though this Vijaya had established marital relationships with both yakshas of Lanka and the Pandya of Tamilnadu and had children therefrom, he bequeathed his kingdom but to a scion of his own Maghadan ancestor.

There are certainly many a historical material in Mahavamsa compiled by a Buddhist monk in the fifth century after Christ based upon Dipavamsa another smaller chronicle of circa third century A.D. It is true that they are inextricably linked with the 'Marvellous and the supernatural' to be shunned by sober historians. There are many chronological conflicts too. Yet, with all these defects they would prove a fruitful source to verify the claims of 'Deluges'.

H.R.Pate makes an interesting point that there was a royal mint in the neighbourhood of Korkai.[106] He further states that coins minted there were in

circulation throughout the Pandyan kingdom. When Korkai was losing its glory it is said that workers in the royal mint left Korkai and settled in Tinnevelly. They are reported to have brought with them an idol of Lord Vinayaka, constructed a temple to house the idol and the Vinayakar known as 'AKKASALAI PILLAYAR' (Akkasalai-Mint). Another custom that is current in the Tinnevelly district is to bring a handful of sand for the festival of the Nelliappar temple from Korkai. All these help us to have a peep into the glory of Korkai besides suggesting that it should have been popular as late as the eighth or ninth century A.D.[107]

The historical position may be summarised as follows: A place named Kolkhoi in the Gulf of Mannar was known to the Greeks. It was a well-known city and centre of pearl trade. A place named Korkai is referred to in Tamil literature of the Sangam Age. The antiquity of the place is beyond doubt. It was, if not the capital at least a leading city of the Pandya kingdom. In the light of all these evidences the conclusion seems inevitable that 'Korkai' was the emporium referred to by the Greeks and one of the greatest cities of the early Pandyas. Location of this place is to be made more satisfactorily. If the spade of the archaeologist could come to the rescue of the historian, the problem could be more satisfactorily solved.

Ancient Tamilakam had many cities which varied in size and importance and their growth is closely linked with environment. With reference to some of the cities identified in the foregoing paragraphs, their internal structure is analysed in the succeeding chapter.

IV

FORMATION AND INTERNAL STRUCTURE

An analysis of town-plan is one of the oldest and most widely known aspects of Urban geography. Such an analysis normally should include the shape and historical components of the plan. Dickinson has proposed what he terms "Basic system of Urban ground plan" which are defined as follows:[1]

a) Irregular plans: The streets in this group are haphazard in width and direction and there are no dominant thorough routes or points.

b) Radial concentric plans: If a progressive outward growth from a nucleus such as church (temple) or market place is envisaged, that may be looked upon as a result of natural growth.

c) Rectangular or grid plans: This means a lay out in which every street crosses another at right angles and at the same interval. In an analysis of the towns of ancient Tamiḻakam this classification is useful

though not very penetrating a descriptive device in approaching the study of internal structure and formation.

Early Tamiḻakam presents a variety of towns and the formation of the towns has been the result of cumulative operation of different causes. Archaeological data are not quite adequate since we are still unable to explain the processes by which the first cities of Tamiḻakam came into being. Equally enigmatic are the facts provided by literature. Yet, it is possible to cull out information and present a reasonably acceptable history of urbanisation. When archaeologists refer to urban phenomena, they refer not to settlement size per se, but to settlement size hierarchy. A culture is urban if some settlements are larger in size than others and if there is artefactual evidence for the existence of economic activities other than subsistence production; craft production, metallurgy, full time urban architects and engineers, merchants, administrators and others at the larger settlements.

The town has emerged in history with two primary characteristics. a) high density of population concentrated within a limited space and b) a predominantly non-agricultural, particularly non-cultivating nature of its population. This men-space ratio and occupational heterogeneity with their consequential relationships have formed the primary basis for differentiation between the city and the village. Obviously, the urban centre comes into being within a rural setting. It is a revolution in human history, the starting point of civilisation. But it is a revolution which has not come about without an agrarian base and without serving as a subordinate factor in an economic activity which was generated in the villages. This 'Rural-urban continuum' is of great importance. The ancient towns of Tamiḻakam are extensions of the village carrying over the same social unities and attitudes. Urban economic activities were extensions of those initiated in the

villages. The linkage is so clear that it would be misleading to see the town apart from the region which brought it into existence or sustained its economic activity.

Of the physio-cultural zones, the land in *Marutham* was most fertile. Here, cultivation was begun at the early stage of history. Other amenities of settled life and progress could flow only in the wake of agricultural progress. The *Perumpāṇārruppatai* describes the features of the *Marutham.*[2] The invention of agriculture was the beginning of civilisation.[3] It involved a really settled society and the assurance of a food supply. Without these conditions an organised form of society could not have been evolved.

People of the *Marutham* did not toil all through the year in search of the necessaries of life. They worked during appropriate seasons depending on the bounty of nature. Their occupation was seasonal. They raised enough to live upon. Anticipating the needs of the year, they stored up the paddy *(Kaḷañjiyam).* They shared this produce with others in society. Since the occupation was seasonal and *Marutham* was prosperous, it became the seat of culture and the site of civilisation. We hear of early centres where paddy was kept in heaps.[4]

The social constraints that we hear of in early Tamiḻakam are to be deemed the result of transactional relations within the *Marutham* zone. Pāṇar, Tuḍiyar and Katampar were habitually nomadic. They had temporary settlements, where they took sojourn during their nomadic career. These sporadic temporary settlements were perhaps designated '*Chēris*'.[5] The people of the *Marutham* proper shared the staple crop 'rice' with the people of the *Chēris.* They, in turn supplied the social needs of the agricultural community of the *Marutham.* It is a known fact that for a given area, the pastoral life will support from a dozen to hundred

times as many people as by hunting or other similar occupations. Cultivation will support from four to twenty times as many as by grazing cattle for meat and dairy product.

Geographers tell us that high level subsistence productivity for the support of non-food producers and maximum transferability (to enable cities to live off the produce of their hinterlands and in turn make goods and services available for these) are necessary pre-condition for urbanisation. An equally important pre-condition is 'complementarity between the various micro regions of an urbanised region'. Evidently, urbanisation and social change are inter-connected. The distribution of sites through the various regions, all of which, show a remarkable uniformity of material culture. The core could be located in *Marutham*, in prime agricultural land where subsistence production was the highest and where exchange of goods easily took place.

Urban societies are characterised by a complex network of production, distribution and consumption patterns. Such complex economic structures wherein individual households need not consume what they themselves have produced from source, necessitates the existence of a central co-ordinating and regulating mechanism in society whose authority is all embracing. The anthropologists agree that, whereas there may be States without cities, there can be no cities without States. In studying the process of primary urbanisation in an area, we have to enquire how and why a ruling class is formed which embodies the authority of the state. Wherefrom this class derives its political and economic power; and what mechanisms bring about the break-down of tribal institutions and the emergence of economic inequality. Several scholars have stressed the role of re-distribution in the emergence of urban societies.[6] The emergence of re-distributive institutions seem to be connected with the growth of external trade. In the absence of market regulated economies,

trade needs to be organised by a central agency providing capital and provisions for mercantile expeditions and also make arrangements for leadership and security. Evidently, growth of redistributive institutions is centred in cities. It was a response to growing economic and social complexity arising from an engagement in extensive long-distance trade.

In the *Marutham* zone of ancient Tamiḻakam, the producers controlled their product which remained with them. The mysteries of the market, money and so on were being felt slowly. The produce was shared with fellowmen who were ready to serve the community and supply socially useful labour. The services demanded by the community were simple and largely met by human labour. The backwardness of the instruments of production ruled out any division of labour at this stage. Perhaps this is the solid reason for the non-mention of caste names in the Śaṅgam Classics. Whatever little division of labour we find in the early period had been temporary and had not evolved into a stable permanent economic interest.[7]

The permanent division of labour was ruled out by the fact that the community was yet too small for it. For effective and everlasting division of labour in society, population must have grown sufficiently large. Hence, the early Tamil society had no serious problem of the caste of the four or three *varṇas*, which however was soon to arise. Smallness of the community, absence of variety of labour and division of labour, exchange of products and division of society into classes characterised the early *Marutham* settlement and its environs. The transactional relations within the cultural economy of the wet-zone were responsible for the distinctive character of the early Tamil society.

Tolkāppiyar names the God of *Marutham* as Vēnthan.[8] The people of the *Marutham* equated their leader with God (Vēnthan). Several stages in the evolution

of the leader are also traceable from references in the Śaṅgam classics. "Ūran",[9] "Mahiḻan",[10] and "Kiḻavan"[11] are terms used to connote the leader. These designations do not sound as tribal appellations like Kaḷamar or Mallar. They suggest the duties discharged by those individuals.[12] The "Crowned kings are also known as "Kiḻavans".[13] There are sufficient evidences to infer that the social life at *Marutham* led to the building up of an infra-structure responding to challenges of economic organisation with 'Kiḻavan' at the top who in course of time acquired divinity and came to be equated with the God of the *Marutham* namely *'Vēnthan'*. The Tamilian institution of monarchy was *'Vēnthu'*. It supplied social captaincy and war-leadership.[14] Monarchical jurisdiction had been limited to the geographical boundaries and confined to aggrandising campaigns. The reason is to be searched for and the answer is provided by environment. Geography was at the base of such political behaviour. The nucleating power-centres were located in the trijunction of the Chēra, Chōḷa, Pāṇḍya kingdoms. Tamiḻakam, the country of the triple kings managed to maintain a rather exclusive political hierarchy in deep south. There was no power-vacuum wherein the external force could intrude.

The *Marutham* settlements were not spread by the nomadic tribes that co-existed with the nascent society, getting refined. The problem of self-defence resulted in the raising of forts.[15] As observed earlier, the dependant and unified folk occupied areas outside the walls of the fort which were named *'Chēris'*. The need for guardians of fort must have followed, resulting in the emergence of Ūran and Mahiḻan. The Śaṅgam Classics abound in poems addressed by the poets to these men of eminence. This process of socio-political effulgence must have inevitably led to the rise of the powerful *Vēnthar*. The urban centres too arose as social products generated by economic forces. The control of economic resources had to be undertaken by the captains of society. The state's control over

the resources expanded progressively. The *Marutham* as the locus of material wealth was also the focus. Chiefs from other zones participated and by their participation linked the *Marutham* with other areas into a single compact structure. There are references in the Śaṅgam Classics to the reclamation of forest lands.[16] The study of environment involves the kind of geographical area inhabited, physical dimensions of geographical area, physical spacing of communities within given geographical region (distance). Urbanisation as a socio-economic phenomenon had struck roots in the region as early as the Śaṅgam age. The development of peasant communities had begun. Social stabilisation necessary for the birth of political unit had also set in.

It is true that the Oriental power could not develop an identity independent of state-power and could not create institutions by itself. Max-weber notes that "Outside the occident, there have not been cities in the sense of a unitary community. In the middle-ages, the distinguishing characteristic was the possession of its own law and court and autonomous administration of whatever extent"[17] ..... "That the reason is economic is very doubtful .... it is the Germanic spirits which produced the unity, for in China and India there were unitary groups much more cohesive than those of the occident and yet the particular union in cities is not found there".[18] Weber's observation evidently is the result of generalisation without a probe into actual facts. The observation is about the cities of the middle-ages. Nevertheless, it is necessary to remember that the European city was a legal and juridical entity which the Oriental city was not. It had no legal status and was on the same footing as the country-side. It was an administrative centre, a functional entity but one 'without a body of citizens' in whom civic authority could reside. The principle of residence could not transcend primordial ties of clan, caste or village, thereby retarding the growth of urbanties. It was not

independent of state-power. The urban conglomeration was formed by the economic and social apparatus and the cultural milieu of a civilisation. It reflected the totality of functions. It did not have the juridical distinctions between the town and the country. Neither did it have the bifurcation between the church and the state, the laity and the clergy. The dominant social reality was the hierarchy which had to be recognised. Smaller associations determined by the kinship and residence were the foci of existence. These units were built around the family, the neighbourhood and religion. Such determinant factors could be understood only by an analysis of formation of some urban sites of ancient Tamiḻakam.

The origin of the ancient city of Madurai as found in *Sthalapuṟāṇas* (local traditions) is clouded by a great deal of mythology though built on a solid foundation of historical information. Madurai is also known as 'Kaḍamba vana' or the forest of Kaḍamba trees. The *Tiruviḷayāḍal puṟāṇam* describes the deforestation of the area. It is said that the Pāṇḍyan ruler of the times had his palace at Maṇavūr which lay to the east of Kaḍamba forests.[19] When the pāṇḍyan monarch was ruling, a merchant of the place set out westwards bent on trade. On his return journey laden with riches it grew dark and he was forced to stay in the Kaḍamba forest. He accidentally came across a beautiful tank and a temple of God Śiva. On reaching Maṇavūr, he narrated his experiences to the king mentioning about the Kaḍamba forest in the west and the enchanting spot with the tank and the temple. Thereupon the king visited the spot and felt that it was a desirable site to build a city round the tank, keeping the temple of God in tact. Several hundreds of men were employed to clear the forest.[20] Consulting his advisers he evolved a plan starting with the temple the main monument in the centre of the city.[21]

The bazaar streets, car-streets, residential quarters

for all grades of inhabitants, public platforms were all planned. Smaller streets intersecting the wider ones were also laid. Natural features were utilised to the fullest extent. Existing streams and ponds were maintained. New tanks were dug (Toḍukuḷam). Fort-walls, ditch etc., were built in accordance with injunctions pre-ordained[22] by śāstras of antiquity. The king's palace was constructed in the north-eastern part of the city which was named Madura (City agreeable).[23] The city was not made piece by piece but as a whole håving regard to the size of the town, the prevention of overcrowding and the provision of open spaces. The entire area was carefully contoured before the town was laid out.

The city after sometime suffered from the devastation of a huge flood. The ancient temple and its surroundings alone which were on an elevated spot escaped the ravages of flood waters. The population took refuge in this elevated spot which came to be known as Naḍuvūr (central place) in memory of what was left of the old city after the deluge.[24] The growing population could not be accommodated in this small strip of land.[25] A resurvey of the limits of the ancient city was undertaken. Starting from the right side of the temple the boundary line was formed along the contour. A large space with the temple in the centre was enclosed and it came to be known as Ālavōi which means a circular plan as a serpant would make, if it should bring its head and tail together, round an object.[26] The total extent of the city was about nine miles by nine miles.[27] The southern gate was the main entrance to the city while the northern gate was smaller and formed the exit. The city growth had been in the southern direction and had the river Vaikai as a natural boundary on the north. The city was so constructed as to guard it against surprize attacks of hostile forces. The north had always been exposed to attacks and perhaps this accounts for the gate at the northern end being small. The northern limits extended upto the river Vaikai. The river

served as a natural defence. Local tradition has an interesting information to convey about the northern exit.

A Chōḻa king by name Kāḍuveṭṭi wanted to undertake a holy pilgrimage to the temple of Śundarēśwara. As indicated by the name, this king was interested in clearing forests and rearing habitable villages. When he reached the northern gates of Madurai, he found the river Vaikai in full spate and not fordable.[28] With great difficulty and manaeuring, he managed to reach the southern gate since his progress was checked by the narrow guard gate of the north. After eliciting a convincing explanation, the northern gates were widened to allow the Chōḻa and his retinue to enter the city.[29] The gate was again restored to its original dimensions as soon as the Chōḻa was escorted from the city to the northern bank of the river.[30] It is evident that the natural advantages provided by the river Vaikai were wisely utilised to provide adequate defence to the city.

The walls of the fort were constructed as the natural condition of the land would permit. The wall did not conform to mathematical exactness, but admitted several deflections and was zig-zag in shape. The city was called Tirumuḍaṅkal or the beautiful city surrounded by zig-zag walls.[31] The temple was situated in the centre and there were not only broad streets but also narrow and crooked lanes.[32] The broad streets were "as wide as a river and the houses on either side rose like tall trees on the banks of the river". The comparison of the broad streets to the bed of a river and of the houses on either side to tall trees growing on the banks of the river are suggestive of the natural gradient in the streets admitting a thorough washing down in rain or in flood and the practice of building houses in towns on elevated grounds. The main entrance gate of the city was as wide as the mouth of the river Vaikai.[33]

Kāvērippūmpaṭṭiṇam (Kāvirippūmpaṭṭiṇam) - the beautiful city whose gardens were fertilised by the Kā-viri[34] -- was situated at the mouth of the river Kāvēri. The site seems to have been selected because of the fertility of the soil. It had all the desirable natural advantages namely a river, a sea-coast, a safe-haven for ships and general fertility of the land. The plain at some distance up to the mouth had been selected. Being built near the coast, the city secured safe ancho-rage for the vessels. From this safe-haven a track was beaten to the city on the River itself.[35] Merchan-dise in the vessel anchored in the sea was taken in boats along the river into the city.[36]

The description of the city that we have in the Classics suggests that it was broadly divided into Maru-vūrpākkam and Paṭṭiṇappākkam with a central market between the two divisions. Normally *'Pākkam'* signifies a place next to the sea or mountain. Here the word may be taken to mean "a village by the side of a sea". Near the sea-coast on the outskirts of Maruvūrpākkam, the Yavanas and other foreign merchants lived and that was the place of business.[37] The housing of foreign-ers near the sea-coast was intended both for conveni-ence and for facilitating collection of dues from them. The removal of goods from the docks was not permitted until the duty was paid.[38]

Vañchi, the capital of the Chēras was a typical fortified city. The defence-moats, the walls and the streets, the bazaars and the palace were planned, taking into consideration all the advantages that nature provided. The artistic value of such a fort is worthy of attention. The foundation of the fort-walls was made patently visible. Then there was the defence created by the trees and shrubs specially planted so as to form an artificial forest. The ancient Tamil literature mentions four kinds of defences to a city namely one of water, one of land, one of mountain and one of forest.[39] If nature fails to provide these,

they were artificially created by the ditch, the walls and the planted forest. Such forests were known as Miḻai. Soldiers resided in these forests and guarded the trees which provided a line of defence to the city.

Likewise when a town was intimately associated with a central temple, it became a garden area in the best sense of the term. A shrine is sanctified by a combination of three elements *Śthala*, *Thīrtha* and Mūrthy that is the soil, the water and the deity. The '*Śthalavruksha*', the tree sacred to the locality, on account of its association with the temple, is an important factor. In a certain area, a particular tree was considered important because of its sacred association with the temple. That tree found favour with private citizens too, and there must have arisen the system of rearing flower-gardens, orchards and avenue trees. Trees, plants, shrubs, creepers and bushes grow in places most congenial to their growth and such natural conditions as the interrelation between a given soil and its vegetation was availed of to the greatest advantage. The *Thēvāram* spells out the idea when it declares "A place without a temple is an arid waste".[40] In other words, such a locality is to be considered uninhabitable. The available gifts of nature such as ponds, tanks, springs, rivers, village-greens, groves and trees were used to the best advantage in making the town look as picturesque as possible.

The economic geography of Tamiḻakam has influenced the naming process of towns. The suffix '*Poḻil*' in place-names like Tiruvaḷampoḻil, suggests a grove. '*Tōṭtam*' signifies the presence of a spacious garden as in 'Pūntōṭtam' and 'Peruntōṭtam' (Thanjavur District). '*Tuṟai*' signifies a place near a river, or a tank; as in Tiruppperuntuṟai, Tiruvāvaḍutuṟai. Sometimes places take the name of the sacred pond as in 'Uḻava ūrṇi' (Thanjavur Dt.) Literally, the name connotes a village with a tank which never fails. Places named after trees and plants are innumerable. Trees and plants

flourish on account of the natural conditions of Vegetation, characteristic of a locality. To cite an example 'Tiruppātirippuliyūr' takes its name after Pātiri tree in the temple. Viḷianūr is named after the vilva forest amidst which it is situated.

Urban Land-use

Urban land-use pattern is the consequence of a large number of operative forces. The emphasis is on an analysis of individual, personal or corporate need, so that the total land-use is seen as the consequence of a very large number of separate activity systems -- each having individual characteristics and reacting not in the abstract, but in the content of a given set of structures which compose the actual city. It becomes possible to locate three main approaches namely the ecological, the economic and activity systems. These three can be examined in terms of the overall land-use pattern. A city does not grow outwards in well-defined advancing rings of rapidly completed development. It extends haphazardly making rapid advances at one point and hardly moving at all in another. It is this process which occasions the incoherent land-use pattern which may be taken as representative of the fringe.

In the city centres of ancient Tamiḻakam there were distinct enclaves where the kingship linkages were intense and where there was a high density of social contact giving a cohesiveness, conventionally ascribed to rural settlements. Attempts to tie particular patterns of social relationships to specific geographical milieu is a fruitless exercise. The most useful concept seems to be that of Melvin Webber namely 'Non-place urban realm'; that is "An urban realm is neither an urban settlement or territory, but heterogeneous groups of people communicating with each other through space".[41] Webber asserts that no urban settlement is a unitary place, but a part of shifting and interpenetrat-

ing realm spaces. The analysis of town plans of some of the well-known ancient cities of Tamilakam brings to light many ecological, economic, administrative and social determinants that conditioned town-life.

In the city of Madurai passing through the southern-gate one can reach the *Akanakar* (interior city) as distinguished from *Puranakar* (that portion of the city outside the walls of the fort). The broad street admitting cool breeze from the west contained the houses of women of questionable character, segregated.[42] Their residences were close to the walls of the city near the western gate. They were allowed the use of separate parks, baths and gardens specially provided for their amusement and comfort.[43] Musicians, dancers and artists lived in this part of the city.[44] The bazaar street in this quarter, separated the main portion of the city from the houses referred to above. The streets where merchants exposed their wares for sale were wide and the stalls were located on either side. Further on, from this busy market place, were streets separately set apart for merchants dealing in gold and precious stones. Next, were the streets where the cloth-merchants lived and sold their goods.[45] There were separate streets where food-grains, pepper and arecanut were sold.[46] The food grains were exhibited in heaps and were of sixteen varieties namely paddy from grass, varaku and tinai (varieties of millet), śamai maize, a hill variety of paddy, ragi, bamboo sago, gingelly, horse-gram, green-gram, black-gram, beans, bengal-gram, dhall and big beans.[47] Grain was best preserved on the sunny side of the street, since good light was necessary. This crowded bazaar is an indication of the localisation of commerce. In the interior, were the palace and the streets about it on all sides. Round the palace were four main separate streets where the different castes of people lived; and triangular and quadrangular plots or squares separated these streets from the palace proper.[48]

The northern side did not permit the expansion of the city in that direction because of the presence of the river Vaikai which was sometimes not fordable except by strong boats.[49] The main entrance being in the south, provided scope for the expansion of the city in that direction. The small eastern gate was not popular with busy people. Religious recluses and holy men were accommodated there, with provisions for prosecuting their ritual practices. Here, the disciples of such hermits received religious as well as secular instruction. The ancient schools were in the nature of seminaries and ample provision was made for the accommodation and convenience of the teachers and pupils. It is evident that there was no intention to provide for the extension of the city in the eastern direction too. The situation of the residences of the hermits near Vaikai lent an additional charm and helped quiet pursuits. Such an arrangement ensured permanent holding and occupation of almost all the houses.

Vañchi being a typical fort-city, the land utilisation was different from that of Madurai or Puhār. Closely adjacent to the exterior were the residences of soldiers, who guarded the city-gates. That part of the city, next to the ditch known as *Puṟanakar* or *Puṟañchēri* was occupied by several classes of people, a mixed population of different social status including the soldiers of the conscripted army. The ditch encircled the walls of the city. The drainage water from the palace and private houses was emptied into the ditch by means of a conduit sluice known as Tumbu. The ditch at the entrance gate was covered over with a stone culvert.[50] While the ditch provided a defence of water to the city, it served also as a receptacle of all the surplus and waste water in the city.

The distribution of people in quarters according to their occupation is a fundamental principle of folk-planning. Passing from the streets where the guards of the fort lived, houses in parallel rows of streets

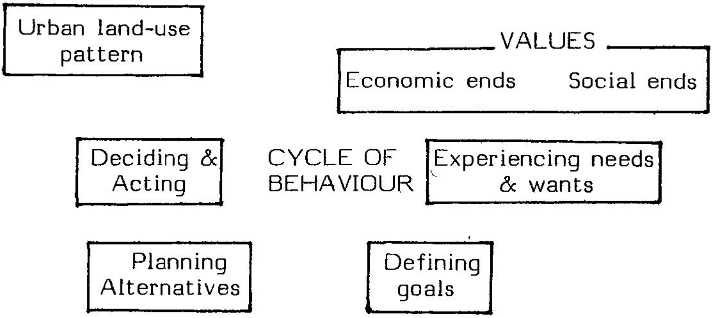
were occupied by people following different trades and occupations. Dealers in fish, toddy, salt, cakes, mutton and ropes lived in adjacent streets. Next in order, were the quarters for the potters, copper-smiths, carpenters, sculptors, artists, leather merchants, florists, astrologers, musicians, chank-cutters, pearl-bead sellers and professional dancers. The central market separated these streets from the city-proper *(Akanakar)* or urban portion. Farther to the market were the quarters in order, for the dancing women, weavers, dealers in gold and merchants selling precious stones. The 'King's street' leading to the main entrance of the palace, spacious and straight was in the interior. The four streets round the palace were intended for the brahmins, the ministers, the chief military officers and servants of the king's house hold. At the rear of the palace, there were quarters set apart for elephant trainers and horse-trainers. For such purposes of training, horses and elephants there was sufficient open space. The palace was central. Triangular plots and quadrangular squares were kept as open spaces *(Chanthiyum, Chathuḳkamum)* as to serve as lungs to the separate quarters of the several classes of the people.

The epic *Maṇimēkalai* has another interesting information to provide.[51] Once, the city of Kāñchi was in the grip of a famine. The monsoon failed and the people suffered on account of scarcity of water. Many left Kāñchipuram and settled in the Chēra capital Vañchi. The then ruler of Kāñchi was unable to fix the cause which had converted a land of plenty into a land of drought and want.[52] The sages and wise-men of the land advised him to open a big tank which could give an unfailing supply of good drinking water even when the monsoon failed and to plant round the tank an orchard and a flower garden.[53] Taking the advice of the wise-men of the land, the king set about planting fruit trees and rearing groves on a site in the south-west of the city and dug a big tank in the centre.[54]

Puhār was famous as a trade emporium. The sea-shore was made beautiful by bowers and pleasant retreats. These bowers were of Puṉṉai and Taḻai trees.[55] The air was laden with the pollen from the sweet smelling flowers of the Puṉnai (Alexandrian laurel) which beat the bead odour from decaying fish near the coast.[56] The broad streets near the sea-shore, where the fishermen lived were lined with coconut trees on either side.[57] The main road in the city was that which was cut from the central part of the city to the sea-side, and this was the esplanade by which imported goods were brought to the stalls in the city.[58]

The chief entrance gate of the city was tall and wide. It towered high like a hill with a broad road in front presenting the appearance of a river running down the hill.[59] At the gate, several guarded groves were planted and tanks and parks were reserved for use of the royal couple.[60] The long road leading out of this entrance gate reached the bathing ghat in the river Kāvēri. This was a broad avenue planted with unbrageous trees.[61] There were many tanks with high embankments and trees all round being reflected in the crystal waters below.[62] The ample provision of flowering trees and orchards along the sea-coast and near the quarters where fishermen lived, shows the awareness of the town-folk of the effects of environment. The fruit-yielding trees grown in fishermen quarters were the coconut and the plantain.[63] The coconut palm, the taḻai and other vegetation helped to bind the sands in the area and give it the necessary cohesion. The trees too flourished in a sandy soil and hence they were selected as being most suitable to be cultivated near the sea-coast.

A study of urban-land use provides us with a sequence of action and the influence of values and behaviour patterns. It can be diagramatically represented as follows:



Certain individuals or groups held values in the use of particular areas favoured by nature. It set in motion a four phase cycle of behaviour which culminated in the parcel or area being put to a particular use.[64] They can be classified as experiencing needs and wants defining goals, planning alternatives, deciding and acting. From these values both conscious and subconscious or explicit or implicit of individuals or groups of individuals; patterns of behaviour were generated leading to those actions which were the determinants of land-use pattern. These behaviour patterns could be interpreted as constituting systems of acting like those of Parathavar, Uḻavar, Kalaigñar, kaivinaiṅkar. The cumulative effect is a land-use element which are the creations of the activity systems and the identification of the varieties of activities. Specialised activities had been restricted to a small section of the water-front like the Parathavar in *Neithal.* It was a specialised skill which others could not easily acquire. There had been a progressive segmentation of specialised activities in the different geographical zones. The first distinctive area to emerge was the *Marutham.* Besides Parathavar, the Vaiśyar (merchants) favoured *Neithal* since ware-house accommodation was available near the outlet namely the sea or river mouth. In the selection of the site, the merchant was influenced by the

trading area potential, accessibility to trading area, growth potential, business interception, cumulative attraction, compatibility, minimising of competitive hazard and site economies. It is obvious that most of these depended on the environment.

Markets

The period from c. 600 B.C. to 322 B.C. is famous as an era of urban revival, marked by growing economic prosperity. Aristobulus, who was sent on a commission by Alexander to a region left desert by a shifting of the Indus to the east, is said to have seen over a thousand towns and villages in the area. These towns have not yet been excavated and evidently the report is an exaggeration. The Jaina canonical texts also mention different types of urban settlements.[65] The Buddhist texts, taking the country as a whole, assign sixty well-known towns to this period, spreading from Campa in the east to Brugukachchā in the west, from Kāvēripaṭṭaṇa in the south to Kapilavastu in the north.[66]

Trade is an important causative factor of urbanization. Literary texts refer to traders laden with commodities frequenting distant and difficult trade routes. The emeregence of trade within an urban frame work underlines its utilitarian character. An important function in an urban society is to supply the items of basic necessities to villagers in return for the agricultural surplus that the latter send to the towns. Foreign trade was an important aspect of urban economy, but suprisingly the early Buddhist texts do not tell us much about it.[67] Trade certainly led to the establishment of numerous markets, which latter assumed the character of urban centres. Even those towns which had originated as seats of power came to assume commercial features because of their proximity to major trade routes.

Many investigators have attempted to indicate how markets were organised so that they could be

visited by itinerant traders. The classic and most quoted study is that by G.W.Skinner relating to markets in rural China.[68] Three years earlier, that is 1961, Hodder pointed out that markets were generally evenly spaced out and independent of the village or hamlet distribution.[69] In some cases, markets have created a village. Marketing activities have accelerated the process of urbanisation in Tamiḻakam. The role of the markets in the process can be analysed by examining three of the well-known cities of ancient Tamiḻakam.

At Kāvērippūmpaṭṭiṇam, the day market was centrally situated in a site which presented the appearance of a vast plain between two opposing forces.[70] The central market was situated in a wide open area between the two important divisions of the city. In the centre of the area set apart for the market and where the main streets intersected, there was a temple dedicated to the guardian deity of the city. Here was a pleasant square with a tree and shrine. The limits of the town either way from the temple was ten miles. The town plan has been so arranged that this temple occupied a place in the centre of the town taken as a whole.[71]

As described earlier, at Vañchi, the central market separated the streets represented by different traders and occupations from the city proper *(Akanakar)*. At Madurai, the markets were two ... a 'Day Market' where business was transacted during day time and a 'Night Market' which was open throughout the night. These two markets were very near each other.[72] Yet, they were separate, two big streets having been allotted specially for the purpose. The streets where merchants spread their wares for sale were wide and the stalls were located on either side and this was a big market.[73]

From the very beginning of the Roman empire the Pāṇḍyan people had probably taken the leading part in encouraging the Romans to come and trade.[74] A large portion of the Roman coins from India has

been found in the Peninsula to the south of the Vindhyas and even to the south of the Deccan plateau. Within this vast area the district of Coimbatore and its borders, some two hundred and fifty miles south of Madras have produced more than the sub-continent put together.[75] The Roman contact had certainly helped the rearing up of a chain of coastal port-towns. Urbanisation in ancient Tamiḻakam seems to have influenced traders and artisans producing high-grade luxury articles like silk-textiles and conch ornaments demanded by the royal house-hold and nobles.

Great care had been bestowed by the ancient Tamils in locating the market at a central place. It is a wholly indigenous phenomenon expressing an intelligent mutual self-interest among neighbouring villages. Attempts at interpretation via traditional central place theory cannot be undertaken as far as Tamiḻakam is concerned. Here the Market is in part of the product of an economic system where producing and selling have not been divorced, so that time is needed for 'manufacture' and part-time retailers demand periodic markets. The organisation of time was a controlling factor. The duration of the Week, the days set aside by religion or for rest and the significance of astrology, all these determined the market timing. Hence an analysis in purely "Central place" terms is unlikely to be greatly useful. In the ultimate analysis, three aspects have been reviewed in this chapter namely a) Plan of cities b) Social areas of cities and c) Spontaneous settlements. That which began at *Marutham* with an agricultural basis shifted to *Neithal* and assumed a commercial cloak. A most effective analysis had been made by considering the linguistic terms which were used to describe the various parts of the city. The terms do represent "Physical, spatial and social" elements in the urban system.

Data availability and urbanisation are highly co-related. It is difficult to obtain adequate small area data

to provide the input to detailed analysis of smaller towns. With the data available from many literary sources, the major towns have been taken for analysis. This short chapter has sought to set out some of the characteristics and problems that the ancient Tamils were faced with, in the process. These characteristics are distinctive and hence important.

V

URBAN ECOLOGY

Urbanisation in ancient Tamiḻakam is not characterised by clusters of cities by agglomerations but by separate "Spot cities". The science of "Social Ecology" lies at the root of all doctrines on the development of society. Ecological factors may be classified under four ground-heads. They are: 1) Geographical including climatic, topographic and resource conditions. 2) Economic includes nature and organisation of local resources and occupational distribution 3) Cultural and Technical including Arts, moral attitudes and taboos 4) Political and administrative measures: as Tariffs, Taxation, Irrigation laws, rules governing public utilities and the like. These have been enumerated and assessed in the foregoing chapters.

It must be evident therefrom that the development of urban settlements is man's most complex systematic influence on nature. This influence combines economic and social relations embedding ideologies and culture. It is here that man enters into his most intensive rela-

tions with natural eco-systems and with the bio-sphere as a whole. The basis of existence is the reproduction of given relations between individuals and the community. The customary aspects of study by social-ecologists are "Community", "City" and "Society". Of them "Community" is the basic element of theoretical syllogisms. The "Community" may be described a "settled and territorially organised society".[1] The Community so conceived is at once a territorial and a functional unit. Distinctly "Human features" are cognizable such as: a) Symbiotic forms of existence (Division of Trades and Professions b) Lesser dependence on the environment for his existence than of other animals c) Extension of man's life beyond the purely biotic (biological) limits to a higher cultural or social level.

This "Bio-planary Dichotomy" (division) namely "Biotic" and "Cultural" are the two processes which come under the concept of "Competitive co-operation" enunciated by Charles Drawin. This concept includes three elements as Adaptation, Correlation and Competition. The interaction of these elements constitutes a 'closed ecosystem' of which ancient Tamilian society is a good example. The Community's Cultural ethos reduces the impact of competition between the rural and urban complexes and paves the way to correlation, understanding and other aspects of human relations. The main driving force in any society is of course - "Competition". In the final analysis, it determines all the processes and phenomena at the "Cultural" and "Social" levels. What is implied here is that 'Competition' as a force has its limitations too. At the social level, it merely assures other forms and is circumscribed by tradition, customs, social harmony and such other considerations.

Tamiḻakam was predominantly an agricultural country, self-supporting in essential food stuffs. Cultivated land was abundant and the necessities of life, plentiful. The Śaṅgam poets are never tired of picturing their

respective territories and eulogising their fertility and excellence. The Chēra country was noted for its buffaloes, jack-fruits and turmeric.[2] The fertility of the lands watered by the Kāvēri is a recurring theme and one poet affirms that the produce of the small area on which a female elephant could lie down was enough to feed seven tuskers.[3] The natural forest produce of the principality of Chieftain Pari included bamboo-rice, jack-fruit, valli-root and honey. Cultivation of millets is described in a poem of the anthology *Puranānūru.*

As inland and foreign trade was flourishing the mechanical professions were fairly advanced. Coinage was known and gold coins are spoken of.[4] They knew the use of Iron, Copper and Silver as metals.[5] The word 'Pon' was used to indicate not only the metal (gold) but also a kind of coin. Gold coins, particularly Roman of the days of Augustus and Tiberius have been unearthed in many of the southern districts. Arikāmēdu was the first of the stations actually identified by excavation in India and holds a distinguished position in the history of the economic relations of India with the outside world.

An elephant running amuck is compared to a storm-tossed ship and there are other references to ship wrecks in storms.[6] Salt, dried fish and processed tamarind were conveyed in boats; evidently a reference to the coastal trade of the country. Foreign ships came laden with horses in the company of merchants who were eager to take the priceless products of the Tamil country in exchange for them. Saliyūr on the Madurai coast was often visited by huge ships. "Nīrpeyarru" was another sea-port to which were brought horses from the West and other products from the north and this was in the territory of Toṇḍaimān Iḷantirayan.[7] In between Saliyūr and Nīrpeyarru lay the still large emporium of Puhār. Large boats had carried white salt and returned laden with paddy in exchange and when lying in harbour,

they resembled a row of horses tethered in a garden.[8] We are able to find allusion to artisans skilled in the repair and refitting of ships called *"Peruṅkaḍal nīndiya maram"* (timber that swam the great ocean).

Loans of commodities rather than cash were taken. A fixed quantity of a particular commodity was taken as loan. An oral promise was made that the commodity of the same quantity and the quality will be returned after the stipulated period. It was called "Kuṟittumāṟeḍir-ppai".[9] Trade was pursued with stated objective of earning profit and the profit was called *'Ūtiyam'*.[10] Many were the trades in which the merchants of Śaṅgam Tamiḻakam engaged themselves. Cloth trade was very popular.[11] Madurai and Uṟaiyūr were well-known centres of textile manufacture. The muslins carried much fine floral work and were of different colours. They are compared to the slough of the snake and the cloud of steam.[12] Silk, Wool and other fabrics are referred to as cloths of natural origin (Milak-Kaliṅgam). They were woven into long-strips and then cut into bits called *'Aruvai'*.

There was trade in *"Ōlai"*. *"Ōlai"* means either an earring or dried palm leaves.[13] Salt merchants moved about with their families in trains of carts. They carried a spare-axle (Śēmav-*Aççu)* with every cart. Pepper was carried from place to place by caravans of asses.[14] The grains -- merchant who sold nine varieties of grain was called *Kūlavaṇikan* and *Kūlam* was a favourite thing with the house-wife.[15] The *Kūlavaṇikan* came round hawking his goods. The goldsmith and the lapidary were seen in quarters of aristocrats.[16] The medicine-man was seen everywhere.[17] The astrologer plied a respectable trade and predicted good or evil as applicable to his client.[18] The potter was indispensable.[19] Pepper, salt and other commodities were packed in bags and taken on carts over the high-way from place to place for sale.[20] Sellers of salt were called *Umaṇar.*[21] Sandal-wood from Poḍiyil hills, ivory from

elephant tusks were costly things used by the kings and nobles.[22]

Things were measured in the balance. Delicate balances were used by the goldsmiths and they were made of ivory.[23] The balance was called *Tulākkōl*, since articles were weighed against the standard weight *Tulām*. (cf. Sanskrit word *'Tulām'* meaning 'Balance'). The measures they knew were *Urai*, *Nāli* and *Mā*.[24]

This brief sketch of activities as gleaned from references to them in the anthologies unambiguously suggests "Competitive co-operation" attempting to effect a balance between rural and urban centres. In the economic sphere of human activities 'Domination' and 'Succession' are necessary, for maintaining order in community. Life in ancient Tamilian society was certainly not "Brutish, nasty and short" but one of 'amity, adjustment and tolerance'. As such, it did not deteriorate into a situation of "the survival of the fittest" as Darwin envisaged. Instead, Social-life was moulded by the forces of urbanisation at work and this process can be termed as "the Role of the city-centre". At such centres, business activities were concentrated which were distinct from the peripheral areas. It set the central community of the city apart from all others. 'Domination' gave rise to the sequence of changes that the community went through in the course of its development from flexibility to permanency. Such competition and operation of ecological principles made the life of the community more balanced. The laws which governed their development namely 'Competitive co-operation' paved the way for achieving and preserving this balance, this harmony.

This process was characteristic of Tamil society of the distant past. The social element, connections and communications and relations between people were not tied down to any particular area. In society, competition continued and social relations accelerated the

process. The result inevitably was the emergence of customs and formal agreements giving the 'urban society' a particular hue. Biological laws and Biotic competition are the most basic for our understanding of the nature of the motive forces of social development. Such processes include 'migration' of crowds, gangs, classes, castes and peoples which can collectively be described as "Collective formations". They are subject to migration like swarms of bees, packs of wolves and herds of cows. The growth, density and mobility of the population, its territorial and occupational distribution and territorial expansion are closed books to us since the sources at our command do not provide us with tangible information in these regards. But these processes are manifested through biotic competition and symbiosis that gave rise to social, political and economic changes which are discernible in the literary sources.

The social, intellectual and artistic aspects of the urban-life of the ancient Tamils are the most attractive. There are well marked differences in matters of furniture, food, dress habits and customs.[25] In *Śilappathikāram* and *Maṇimēkalai*, we see more of the description of urban social life than villages. The references to yavanas are notable—doubtless to Greeks, Roman merchants, sailors and others.[26] "In studying the cultural and religious developments of the early Tamils, one is apt to overlook the parts played by the Greek, Roman Phoenician, Jewish, Egyptian, Ethiopean, Indonesian and Chinese mariners and traders, courtesans, artisans and mendicants, who were more or less constant factors in the urban-life of Tamiḻakam of those days".[27] Evidently, the sea-coasts of ancient Tamiḻakam were exposed to such contacts.[28] The littoral tracts which had the full benefits of such intercourses, must have imbibed them and diffused them into the interior. It is true, that it is difficult to spot out microscopically the urban and rural traits in a composite culture and so to say they are inseparable. The emerging urban characteristics of Tamil culture are so striking that they cannot be

easily ignored.

The question to what extent the civilisation of the ancient Tamils is a blend of the non-Tamilian and Tamilian is a big one. The exact relation is yet to be discovered. Patterns of civilisation do not develop capriciously over-night, as if by a freak of nature. They have their geographical, economic, psychological and other causes. Placed as Tamiḻnāḍu is at the apex of the Indian Ocean which had been from the dawn of pre-history, the high road of international navigation and commerce, its cultural pattern could not have been otherwise than what it was and is. Historiographers declare that man's civilised existence could have been only in the river valleys such as those of the Ho-wang ho, the Mekong, the Ganges, the Indus, the Oxus, the Euphrates-Tigris, the Nile, the Volga and the Mississippi. Of course human origins and simple organised existences could not have been otherwise. But the next stage, of inter-tribal and international complexes could have developed only through land and sea-traffic and intercourse. Regions like Central Asia, North Persia, Asia Minor, Ethiopia and Eastern Europe which were on the overland caravan routes of the ancient world had thus distinct but nomadic patterns of Culture; while Indo-China, Tamiḻnāḍu, Arabia, Egypt, Greece and Italy had developed different patterns having nevertheless a common littoral basic atmosphere. As referred to earlier, in technical vocabulary, man must have originated in *Marutham* but urbanised in *Neithal.*[29]

Men live and act in society. They gain a knowledge of it, just as they do of the surrounding nature. Human Society is a complex entity which arises from the interaction between men and nature and with each other. Men, their activities and relations are social realities. Even in prehistoric times, men settled in Tamiḻakam and constituted more or less isolated local groups which gradually developed into states ("Vēnthus"). From the history of individual entities and the relationships bet-

ween them shaped the history of society. A scientific cognition of society starts with a description of facts and events. To give a scientific explanation of men's activity in history is an extremely complicated task.

Hence, it becomes necessary to enumerated the 'Specifics of social life' and to define their exact content in the context of urban growth and development, particularly in Tamilakam of the distant past. Everything that appears in nature has natural causes. None of this is governed by a pre-determined purpose or conscious intention. In human society everything that happens is the result of men's activity and their interaction. The interaction involves chance as well as necessity.

Reiteration occurs everywhere in nature. Any historical event is truly unique, and never recurs in its concrete form. But this uniqueness should not be treated as an absolute specific of concrete history in the individual districts, regions, countries, nations and states. It reveals on closer examination much more that is general and recurrent than may appear at first sight. Every individual is connected with a definite culture which moulds his cast of mind and activity and which remains relatively unchanged over centuries and even millenia. Each culture is original that it will not be of much use in comparing them for the purpose of drawing a common line of evolution. Apparently, human society contains both the continuous flux and the stable state. These two aspects of historical processes are wholly reflected in the evolution of Tamil society.

Nevertheless, it is indeed difficult to find out the recurrent and stable elements in a flood of historical events that crowd the columns of the social history of early Tamilakam. It cannot also be denied that "History itself is the making of man by means of man's labour, that is through his own activity".[30] Outside the context of activity, there is no history, no society, not even man himself. The discrepancy between the

aims and the results of activity shows that forces operate in history which are outside man's control and which *ultimately* determine the results of his activity. Every nation has its own specific pattern although the same laws operate in all countries with identical efforts.

Social relations that are developed are the varied ties which take place between man in the course of their activity in different spheres of social life on the basis of historically rooted mode of activities. Social scientists recognies 'Material' and 'Ideological' varieties of social relations. The 'Family' epitomises social relations prevailing in society. It is an institution which we find in every society, based on material relations between husband and wife and by relations of kinship (parents and children, brothers and sisters). 'Family' plays diverse social functions in the history of society. One generation passes on its experience to another, its spiritual values, its ethical rules, its traditional notions and the like.

The Tamil Saṅgam Classical poetry or literature is grouped under two broad categories of *Akam* and *Puṟam*.[31] *Akam* stands for and represents all poetry that relates to and expresses love-psychology and its concomitants. *Puṟam* deals with the whole range of poetry that bears on all human interests outside the home. In the earliest extant Tamil Classics, we are accosted with the characteristic Tamilian ideals of *'Akam'* and *'Puṟam'*. The Tamilian convention of classifying all human interests under the two large heads namely domestic or private and social or public life of man seems to be very natural and really comprehensive. The genius of the Tamil race in that dim distant past, so far as it is projected in the earliest Tamilian Classical literature extant, appears to be essentially simple, self-impelling, peaceful and individualistic. The Tamils lived quite a happy peaceful life in the maritime southern continent with all that characterised the life of such a maritime race.

The Tamils lived in peace undisturbed by aliens. They had no need incessantly to be thinking or preparing for war and military exploits, unless it were only internecine warfare among the clans, incidental to the tribal life of the Tamilian people themselves. There was no need of organising his 'Family' on lines of a coparcenary for strength as a federal unit. There was also no necessity for making marriage intensely a racial sacrament and a means of enlarging his ever expanding joint family or coparcenary, with a view to augment his fighting power to combat and keep down his enemies. The Tamilian cared more for the happiness of his home. He made the element of love as a condition precedent for a happy life-union.

The Tamil patriarch took such a rosy view of and laid such an emphasis upon a happy home-life that he came to insist upon voluntary union between the sexes entirely and exclusively based upon mutual love. This deep rooted Tamilian sentiment came to be reflected in his poetry. *'Kaḷavu'* (Love and Courtship) and *'Kaṟpu'* (marriage and wedded love) were unequivocally enforced. The observance was deemed as a religiously indispensable pre-requisite for all unions between sexes. The rigour of this Tamil ideal of love before marriage is so strong to make the grammarians expressly lay it down as an inviolable axiom or rule of propriety in their classical codes. The finest superbly spiritual axioms and postulates known as *"Thuṟai"* in love literature simply confirm and integrate this cardinal root principle of the need for and emphasis on enduring love for all sex unions.[32]

There are numerous references in the anthologies to the effect that the early Tamils considered no formal ceremony or rite of any kind to be necessary for a Tamilian marriage. Early Tamil literature has emphasized the distinctive features of love associated by convention with each physiographical region. Of them *Neithal* is said to reflect the agony of the lovers when they

meet with some obstacle to the smooth progress of their love. More often the circumstances are participation in war on behalf of the state, embarkation on distant ventures for acquiring wealth or prolonged residence in remote places for the purpose of trade. All these have been avocations of the town-folk occupying coastal areas.

A peculiar custom among the Āyar was that a woman's hand is to be won only after the victory in a Bull-fight.[32a] The bestowal of money or gift on the girl as a condition precedent to the marriage is mentioned in *Akanānūṟu.*[33] The settling of marriages by relatives and elders with or without the bride-price also seem to have been in vogue.[34] While the payment of "Bride-price" is mentioned in some of the Śaṅgam works, there is no reference to payment of money to the bridegroom.[35]

The approaching harvest season was usually considered to be the most auspicious time for the wedding.[36] It coincided with the blossoming of the Vēṅkai tree. *Akanānūṟu* poems 86 and 136 give us a picture of the wedding ceremony. We do not hear of any ritual. There is no mention of the *(Tāli)* sacred symbol of bondage. Poem 127 of *Puṟanānūṟu* shows that married women wore an ornament which could not be given away as a gift to anyone, even by the husband. Supplementing the information *Akanānūṟu* poem 136, mentions the loud sound of drums *(Muraśoli)* and the worship of Gods prior to wedding. Such references can be taken as picturing the Tamilian form of marriage ceremony among the rural folk of ancient Tamiḻakam. *Kaliṭtokai* refers to the brahmin priests and the practice of circumambulating the sacrificial fire.[37]

Śilappathikāram gives a full description of Kōvalan's marriage, which may be taken as a sample of the marriage of the urban areas, particularly of the relatively affluent class. An elderly brahmin performs the Vēdic

rites and conducts the marriage ceremony. He makes the married couple circumambulate the sacred fire. A grand procession through the streets is referred to. A custom to be noted is that small earthernware vessels which contained germinating seeds being brought by some women. It is interesting that similar details are found in *Perumpāṇāṟṟuppaṭai*.[38] Kaṇṇakai was twelve years of age and Kōvalan sixteen at the time of the marriage. The commingling of various cultural strains are seen penetrating the rural customs in the urban centre.

The *'Puṟam'* or external phase of ancient Tamil civilisation brings forth another motor-main where the great natural factor of hunger meets and reacts with the sex impulse to impel and evolve further progress of man in the scale of civilisation. The families soon develop into 'Communities'. The Tamilian developed in his environment the individualistic family system. No sons or grandsons could claim any interest in the properties of a Tamilian, even if they were his own self-earnings, The Tamil community was a federation of different types and clans as well as of crafts and landed or trading classes with perfect social equality and without rigid barriers and bars between them by virtue of mere birth. The Tamilian communal clans and classes closely approximated to the trade-guilds and individualistic society in medieval Europe and was at the antipodes of the well-organised caste-bound racial community of upper India.

As said earlier, the Tamilian fought for honour and self-defence and rarely undertook wars of expansion and aggrandisement. He welcomed war and even warmly advocated martial glory, but only for and in defence of honour and home. The art of war-fare had been an important subject of discussion in ancient Tamil works. Good and secure fortifications were absolutely necessary; and one of the causative factors of urban growth was war. Apart from the high ramparts and

deep moats round a capital city, kingdoms had a reserve forest, sea or big lake and impenetrable jungle surrounding them.[39]

Socio-economic formation is a highly complex and multifaceted social organism. To gain a correct understanding of the historical process, there is need to take into account of every aspect of social life of all the social phenomena in their interaction. The intricate maze of the social phenomena can be understood by analysing the 'Formation'. It characterises society as an integrated whole in all the diversities of its manifestations. This is a static examination of society. But society is in constant development and is distinct from 'Nature' and organically connected with it.

'Society' is inseparable from 'Nature' and in its development constantly interacts with it, and hence the relationship invites scrutiny. Natural conditions in which human society exists, the sphere in which Society directly interacts with 'Nature' are known as the "Geographical Environment". The geographical environment creates definite potentialities and how these are used depends on society itself. The same natural conditions may have a different impact on the development of society depending on the level of its progress.[40]

Scrutinising the information available from the anthologies, it is possible to theorise and fix the process of evolution of social ecology in ancient Tamiḻakam. The basis of existence was the reproduction of given relations between individuals and the 'Community'. Intimate linkage with existing and hence specific natural conditions constituted the form of Government. It represented a spread and intensification of the universality of social-life. It gained control over new spheres of social existence.

A 'City-centre' came to represent a local mode of universal ties and relations. The individuals -- themselves, their relations and forms of social intercourse and their way of life assumed wider dimensions. The potential resources of the city centre were derived from the Environment and in that sense, it was a part of the environment. This organism reproduced itself in time and space through the contributions of social and natural resources of the rural-world. Each cycle of its development consumed rural resources. This dialectics between the internal and external, between the requirements that the city must meet and the mode of maintaining its stability provide the key to understanding of the ecological structure of a city.

This understanding depends fundamentally on the correlation of two historically successive stages in the universalisation of cultures. This refers to two mutually interrelated processes, the first is that of theoretical activities and the second is the formation of a socio-cultural environments within the frame-work of spiritual potentials. The local limitation of urban structures and their resulting segregation were the consequences of existing natural barriers.[41] It is also patent that the forces operating in support of the integral character of urbanisation do not correspond to the scale and speed of changes occurring in society as a whole. Local forms of life can best be regarded as tokens of social prestige for the groups reflecting the social space they have occupied. The spontaneous and uneven character of the development itself operated as a cause for the formation and had resulted in partial conservation of local forms of life.

The nascent urban mode of life is characterised more by a disruption or disorganisation of habitation organism than by its stabilisation. Broadly speaking, it may be said that urbanisation at this initial stage coincided with trade-expansion, activities shifting from *Marutham* to *Neithal*. This appears to be an outcome

of involvement of existing human resources into the process of urbanisation. At this stage, the drawing of rural migrants into urban-life was practically equivalent to their engagement in trade activities. Development of urban qualities among urban residents seem to have taken place directly in the process of commercial expansion. This is a stage of mass involvement of urban life.

But this mass involvement had not yet been fully organised. At this stage the 'City centres' of ancient Tamilakam were only "Receptacles or Reservoirs of environmental resources" flowing from *Marutham* to *Neithal* zones. Penetration of urban relations into rural areas is weakly pronounced. This is followed by the formation of mechanisms for self organisation.[42] At this point, cities develop their adaptive functions which lead to the emergence of corresponding social systems (Education, Services, Administration).[43] At this stage urban ecology continues to be the outcome of peculiar conditions of the existence, confrontations and struggles of social life.

Institutionalisation of social systems emerges.[44] The polarisation of class forces and the increasing complexity of societies' class structure begin to be reflected in an increasingly intricate differentiation of urban phase.

The development of society cannot be reduced to economic development considering man only as a productive unit and confining his aspirations to a concern for obtaining material values and under estimating the spiritual life of man in society. The spiritual life of society is closely connected with social life, reflecting social processes, collisions and conflicts and being related with the many forms of men's social activity. The interaction of spiritual life with the individual consciousness includes ideological struggle between various social groups and classes, exchanges of views,

ideas and theories and their origination and development.

Among the early Tamils both animism and naturism seem to have existed side by side. In respect of the importance attached to particular deities, changes seem to have occurred from time to time. Temples were erected and the modes of worship of the urban population appear to be quite different from those of the rural population. In respect of worship, the rural folk adopted Muruka as "Governor of all the seven worlds".[45] An elaborate *Veṟiyāḍal* and varieties of Kuṟavai dances figure prominently in the rural belt.[46] The Kuṟavar and Kānavar, men and women participated in the Kuṟavai dances which were staged under the Vēṅkai tree.[47]

In the urban areas, temples were located to shelter a particular deity. From evidences in *Śilappathikāram*, one can see the contrast from the rural belt. "Indra" assumes a supreme position while Muruka, Śiva and Māyōn (an aspect of Vishṇu) continue to be prominent. The location of the temples in some of the cities claim our attention. At Kāvērippūmpaṭṭiṇam, in the centre of the area set apart for the market and where the main streets interesected, there was a temple dedicated to the guardian deity of the city.

The original name of Puhār is said to be "Champāpathi". The name was a derivation of "Jampāpathi", the presiding deity. This was, before a canal from Kāvēra lake was dug out to flow into the Bay of Bengal through the city. Later on, it was named as "Kāvērippūmpaṭṭiṇam". If Kāvēri is later in origin, what about the other streams which must have existed earlier? Evidently, they must have flown through the town. With the addition of Kāvēri, it must have become big. Of the two deities in Puhār, the original one namely Champāpathy was feminine. There was another deity called "Chathukkabūtham". It was a semi-divine being who helped a certain Muchukunda Chōḻa to overcome

the demons.[48] At the market place where the temple stood, there was a pleasant square with a tree and shrine. The temple stood just in the centre of the city. The town-plan has been such that this temple occupied a place in the centre of the town.[49]

Of the archaeological excavations conducted in Koduṅgallūr in February-March 1970, the most important feature that is bound to attract scholars, is the peculiar layout of the fort and then the temple. The temple stands right in the middle of where the eastern walls should be. If there had been a gate here, the temple would have been exactly at the gate. The name, the lay-out and the cultural character of the temple unearthed at Tirukkaṇāmathilakam and the description of Kuṇavāyir-kōṭṭam of *Śilappathikāram* appear to be analogous.[50]

In the conduct of festivals too, the urban practice is different. The God Indra figures largely in *Śilappathikāram* and some of the *Kīlkaṇakku* works.[51] A poem in the *Puṟanānūṟu* speaks of Him as the Lord of Heaven with his axe (Vajram) as a mighty weapon.[52] There was a temple in Puhār enshrining Indra's weapon,[53] where exactly the temple was located is not however clearly indicated. Indra was believed to have had thousand eyes. The festival in honour of Indra was celebrated with great pomp at Puhār, the Chōla King himself taking an active part in it.[54] The festival was known earlier too, but it was not celebrated so pompously as in the coastal town of Puhār. Therefore the festival warrants some consideration here.

It is generally accepted that the worship of symbols preceded the worship of images. Even at Puhār and Maṇipallavam, in the Buddhistic temples, they worshipped His *Peeta* and not His image. Likewise, we find Indra's symbol being worshipped. This shows Buddhistic influence in the mode of worship. In important towns lived Buddhists and Jains.[55] Their spiritual strongholds were

known as Samaṇappaḷḷi or Amaṇappaḷḷi. These have been located outside the city-limits.[56] It must be admitted that from the beginning, the Jains as well as Buddhists influenced the beliefs and practices of the Tamils. The opening chapter of *Maṇimēkalai* has a reference to various Buddhist practices to propagate religion. Buddhism seems to have been particularly popular in the Western region, Kērala.[57] The out-skirts of Trivāndrum and places near about contain several Buddhist relics, though it is difficult to asertain the exact date of these relics.

Another important point to be noticed with the celebration of Indravizhai is, neither the Pāṇḍya nor the Chēra nor any of the chieftains of Tamiḻnāḍu seem to have celebrated this festival in their kingdoms even though the failure to do so by the Chōḻa was supposed to bring in the destruction of his capital. This tempts us to surmise that the Chōḻa being the Lord of the eastern Tamil land, had perhaps to propitiate Indra, the "Lord of the East". A similar obligation must have prompted the Pāṇḍya who was the lord of the southern part of Tamiḻnâḍu (Tennavan) to style himself as Māṟan (Yama -- the Lord of the South). And again the Chēra of the Western part of the Tamiḻnāḍu must have propitiated Varuṇa, the lord of the West by adopting as his flag, symbol of Varuṇa.

The deity 'Kāman' figures in *Paripātal* and *Kalittokai*[58] He is popular in the coastal town of Puhār. The emblem of Kāman's flag is the fish, while the sugar-cane plant is considered to be his bow. Two important festivals were held in His honour, one in the spring and another in the Summer.[59] Kāman is to dance the *'Pēḍi Āḍal'* in feminine attire.[60] A temple known as Kāmavilkkōṭṭam existed at Kāvērippūmpaṭṭiṇam.[61] In the Purāṇic world and common belief "Kāman" is the God of Cupid. This Kāman is also referred to as Kāmanār and *"Sāmanukku mūṭṭa Kāmanār"* -- the Kāmanār who is elder to Śāmanār.[62]

Whereas regional deities are the common rule in the rural belts, cities witnessed a notable measure of cosmopolitanism within the Tamil folk. Innumerable Gods are worshipped. People adore these Gods in the fear that neglect will make them victims of the God's wrath. The distressed Mālathi worships many Gods and it is an impressive list of cosmopolitan Gods.[63]

Religion is an important causative factor that helps the growth of towns. Theological considerations no doubt lead to emergence of religious institutions. A noteworthy point is the situation of larger temples often in the centre of the town thus expressing in spatial terms the theological nationalisation of the unity of the city of state. The cities also had subsidiary cult centres located in respective quarters of the city. Temples also in course of time played a curcial role in urban economy by supporting a considerable number of inhabitants. The ceremonial centres functioned precisely as instruments and centres for the dissemination of urban ideas through all levels of society.

The spiritual life of Tamil society in the urban centres of ancient Tamiḻakam will be incomplete without an analysis of collisions and conflicts. It is rather curious that the Tamil Kingdoms alone among the dynasties of South-India were able to preserve their own conservatism better. The excavations at Kiḻayūr around Kāvērippaṭṭiṇam have exposed a Buddhist Vihāra, a votive stūpa pointing to the fact that this must have been a flourishing centre of Buddhism.[64] In the heart of the Tamil country, Buddhist monks known as 'Śāṭṭar' are said to have carried on their religious activities. Adequate evidence is not available to show that the monks carried on vigorous proselytism during the epoch of the Brahmi Inscriptions in the South. It is likely that they became influential from the fourth century A.D.

It is difficult to determine even approximately

the number of Buddhists in the Tamil country till the beginning of the 7th century A.D. The probability seems to be that in the fourth and fifth centuries A.D. there was a notable increase of Buddhists in Tamiḻakam. It is definitely known that about the fifth century A.D., Kāñchi was a flourishing centre of Buddhism. Since the 6th century A.D., this position was comparatively becoming feeble. When Hiewn T Sang visited the south about 642 A.D. Buddhism was not found to be in a flourishing condition.

Buddhism had been flourishing in the coastal Andhra country from Guntur to Visakapatnam with a continuous chain of settlements, monasteries and Stwpas in this tract. Perhaps the maritime movements from Kalinga and Simhala along the Bay of Bengal coast had been conducive to Buddhist religious dispersal. The inscriptions from Nāgārjuna Koṇḍa, Bhattiproulu, Ghaṇtaśāla, Śāli-kuṇdam and other places suggest that countries from far and near had been mingling in a religio-cultural stream under the Mahāyana banner in the live centres of lower Andhradesa.

On the other hand the Śaṅgam Classics suggest a kind of ill-assimilated admixture of "Āryan-ritual" and other elements into the indigenous matrix. They seem to have no direct relationship by way of either vocabulary of script with the Brāhmi label and short inscriptions found in the many cave resorts of ascetics in the Tamil country. The earliest of these Brāhmi records are generally taken as belonging to the last century before Christ. But they lend a greater plausibility for their affiliations with an early dispersal of ascetic Jainism rather than Buddhism in the Tamil country. Most of the records make direct references to the rock-cut beds, made apparently for Jain ascetics, who were performing austerities there.[65] Apparently, Jainism had reached the less hospitable hill-tracts of Tamiḻakam. In the Chittoor and North-Arcot districts of Tamiḻnāḍu, we find vestiges of a string of Jain-settle-

ments, cavern records and traditions.[66] Jainism in Tamiḻakam seems to be older than the Buddhism of Asoka by at least half a century.

The advent of "Āryan Cult" elements into the Tamil country had to be fixed in the opening centuries of the Christian era. The indigenous people had already been noted for their maritime trade, sturdy individualism and cohesive nature. The process of urbanisation that had set in, hastened to make the ground fit for the genesis of a composite culture. This process of the cultural genesis incorporated some elements which had presumably been learnt during their over-seas trade contacts in other maritime countries. In the sphere of religion, it had an indigenous colour imparted to them after the concepts had come into their fold and became a combination of naturalistic, animistic and totemistic features. Urban centres of early Tamiḻakam had a great part to play in the interfusion.

VI

PROBLEMS AND PERSPECTIVES

This study is but a scratch on the surface of the attempt to understand the process of urbanisation in early Tamiḻakam. Its value lies in the possibility of understanding the past of Tamiḻakam. It is a trial to bring out only the tip of the ice-berg. Some of the crucial problems of Tamilian history require a far more detailed analysis of urban centres and their social and economic as well as physical ecology than had been undertaken here. Studies in Urban history may have to take urbanisation in general and urban centres in particular as their matrix. Both these aspects have been borne in mind in this study though greater emphasis had been laid on 'Environment'.

Society is inseparable from 'Nature'. In its development it constantly interacts with it. It is necessary that social science must examine this relationship. In Chapter II, the physical geography of the Tamil country had been analysed. The environmental control over the human habitation had always been marked.

There had been a maritime bias which had been vividly brought out. The study of distribution, size and economic significance of human settlements, farming enterprises, transport systems, administrative mechanisms which come under Spatial Geography, have also been undertaken in the same chapter.

That Tamilakam is one of the greatest city making regions of the world is established in Chapter III. The urban centre comes into being within a rural setting. The rise of towns had been described as a revolution in human history. But it is a revolution which could not have and had not come about without an agrarian base, and without serving as a subordinate factor in an economic activity generated in the villages. It had been established that economic activities originated in *Marutham* which shifted its centre of gravity to *Neithal* to establish Urban centres. This rural urban interdependence again makes it patent that the environment had a great part to play.

In Chapter IV, an analysis of the town plan is undertaken. Such an analysis is one of the oldest and widely known aspects of Urban Geography. The shape and historical components of the plan form the main theme. Evidently, they are dependant on the environment. The 'City Centre' as one finds it here is the point of maximum concentration for the power and culture of the community. It is the form and symbol of an integrated social relationship. It is the seat of the temple, the market, and the academy of learning. Human experience is transformed into visible signs and symbols. The city though not an entity in itself is an "index value, indicating, measuring and summarising the civilisation".*

The social transformation which brought the towns

* Paul Meadows: "The City, Technology and History" (Addison Wesley Publishing Company, London, 1976) p. 16.

into existence was due to the surplus which was created by sedantarisation and agriculture. Urbanisation is contingent on a relatively advanced mode of production, on a relationship between the economic organisation of society and the level of technology which in turn determine the rate, the volume and the direction of resource utilisation. Chapter V is devoted to explain the operation of this process in early Tamiḻakam. In this attempt to explain, care had been taken to eschew the pitfall of glamourising the city in contrast with "the primitivism" characteristic of the village. In other words, exaggeration of the dichotomy between the village and the town had been carefully avoided. The numerous facets of urban history can hardly be spelt out. Urban history had been distinguished from urban biography, by considering all the contributory factors. Economy, Society, Culture and Religion, among the factors, have been high-lighted. Probing into the contemporary scene, an attempt had also been made to create a theoretical base.

Problems of the environment form the main theme of the study and they have been used as strings to fasten the findings. The geographical environment creates definite potentialities accelerating the process of urbanisation in ancient Tamiḻakam. Natural wealth had a great part to play at the lower stages of development. Nature also exerts an influence on man and on his life. This is reflected in his way of life, his dwellings, his clothes and food. But in determining the character of the social structure and the direction in which it had changed, natures' direct influence on man is hardly of substantial importance. It is admitted that geographical environment alone cannot determine social development. It cannot also be denied that it is one of the causative factors. Other factors have also been taken into consideration and this study bears the title "Environment and Urbanisation in early Tamiḻakam". Evidently, the word "Environment" bears a wider connotation. Causative factors are cognisable and may be identical

in some parts of the world. But the reactions and the results are different in the different parts of the world and in this sense the Tamilian experience is unique. Justification for undertaking the study is sought on this premise.

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10. *Kāthais* XXIV to XXX.

11. *Puṟanāṇūṟu*; 71.

12. *Ibid*, 126.

13. *Ibid*.

14. *Puṟanāṇūṟu*, 47

15. *Ibid*, 385.

16. *Ibid*; 148.

17. *Ibid*; 106.

18. *Ibid*, 154.

19. *Ibid*, 22, 152.

20. *Ibid*; 205.

21. *Ibid*; 150.

22. *Ibid*; 399.

23. *Ibid*, 137.

24. *Ibid*; 108.

25. *Ibid*; 398.

26. *Ibid*; 193.

27. *Ibid*; 52.

28. *Ibid*, 158.

29. *Ibid*; 200.

30. *Ibid*; 143.

31. *Ibid*; 35, 109, 110, 205, 357.

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37. *Ibid*; 128.

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82.}Mazumdar Sastri; *Op. cit.*, p. 52 and 50.

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95. This claim is made on the available decipherment of a pictograph discovered at Mohenjadaro as "Kār-mukil Malayāḷam Nāḍu", that is the land of Malabar having rain clouds. The coffin discovered at Harappa is supposed to have been made of rose-wood from

Malabar.

96. *Hibbert lectures*; p. 136.

97. Chapter 35, *Exodus*.

98. Excavations at Vadnagar, Timberakota (Gujarat) and Brahmagiri.

99. The red polished ware of the West-coast and the Śaka-Kushāṇa antiquities of Western and upper India bear similarities.

100. R.E.M.Wheeler; Excavations at Brahmagiri and Chandravalli, (Ancient India No. 4), pp. 181-310.

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103. LI: 322-24; 349-51; 230; 262; 222; 295-96; 353-66.

104. G.Elliot Smith; *Nature*, January 15, 1927, p. 8.

105. *Paṭṭinappālai*; 283-86.

106. *Maduraikkāñchi*; 286-88.

107. M.E.Manickavasakam Pillai in this paper "Population of Tamiḻakam during the Saṅgam Age" (Conference -- *Seminar of Tamil Studies*, Kulalampur, April 1966) attempted to estimate the population of Tamiḻakam on a rough and ready basis. It is a very rough estimate, almost a guess work.

108. *Puṟanāṉūṟu*; 335 (7-8).

109. 'Land-marks in the history of Tamilnadu'. *(Proceed-*

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111. According to Dr. Burnell, the work belongs to the 8th century A.D. Many others have assigned dates to the work from the third century B.C. to the fifth century A.D. It is the oldest extant Tamil grammar and deals with a) Orthography, b) Etymology and Syntax, c) Established literary conventions and prosody in the three major parts called *Athikāras*. Each *Athikāra* is further divided into nine sub-divisions called *Iyals*.

112. The term 'Veḷḷāḷar' is found in *paripātal* and that too only in one context. There is room enough to doubt it an interpolation. The Tamil Nikaṇṭu assigned to the 9-10th centuries A.D. mention the name *'Śūdras'*.

113. *"Émappērūr Chēriyum Śuraththum"*. The term *Chēri* denoting suburb occurs in the Śaṅgam Classics as well as in the *Śilappathikāram*, *Akanānūṟu* 76; *Naṟṟiṇai* 63-3; *Aiṅkuṟunūṟu* 279; 5; *Kuṟuntokai* 262-1; *Śilappathikāram* VI - 133; VII - 10:1:38:2. The corrupt language of the *Chēri* was *Chērimoḻi*. (*Tolkāppiyam - Poruḷ* 553:1). Sometimes quarters of brahmins also were described as *Chēris* (Pārpanachchēri).

III

LOCATION OF SITES

1. *Tirumurukāṟṟuppaṭai*, L1 220-226.

2. *Vide Supra*, Chapter II.

3. *Puṟanāṉūṟu*, 397

4. *Ibid*, 328.

5. *Perumpāṇāṟṟuppaṭai*, L.298 (house)

   Ibid, L.440 (place)

   Maduraikkāñchi, L.169(city)

   Kallāṭam, V. 14.(Temple)

   Ibid, V. 3 (Mansion)

6. T.V.Kuppuswami, *Śaṅgam Chieftains and their Times, Op. cit.*

7. *Kāñchipuram*, Nak. V.110.

8. K.V.Subramania Iyer: PTAIOC (1924, Madras) P. 280-2. Ibid, 298-9.

9. Krishna Sastri, PTAIOC (1918, Poona) p. 342-6.

10. *Paṭṭinappālai*, 6; *Maduraikkāñchi*, 453-5.

11. *Paripāṭal*, Poem 165.

    Gopinatha Rao in ST. (1906. As.541-3).

    Pandit Raghava Iyengar in Ib (1910 J.F.) Viii.v 11.4.

12. W.Francis, Madura Gazetteer (1906) i-273.

13. *Tir. murukārruppatai*, Lines 69-76.

14. *Paripātal*, 23 L1, 1 to 5.

15. *cf:* Uraiyūr Ēnichēri Mudamōsiyar. He lived in the small locality of Ēnichēri which was portion of the larger unit Uraiyūr.

16. *Kallādam*, Verse 61

17. *Akanānūru*, 93

18. *Puranānūru*, 11

19. *Śilappathikāram*, 29

20. *Puranānūru*, 347

21. *Ibid*, 13

22. *Patirruppaththu*, 50

23. *Śilappathikāram*

24. *Thēvāram*, I (Paliyolarkal Payil Puhar)

25. *Pattinappālai*, 285

26. Kāvērippūmpattinaththk Karikkannanār.

27. *Manimēkalai*, 9, 53.

28. *Ibid*, 7, 26.

29. *Ibid*, 22, 102.

30. *Pattinappālai*, 218

31. *Śilappathikāram* 20, 56; *Patirruppaththu*, 73; *Akanāṉūṟu*, 110:4:181-22.

32. *Śilappathikāram*, 1:10

33. *Maṇimēkalai*, 315.

34. *Śilappathikāram*, 15, 151.

35. *Maṇimēkalai*, 25:16

36. *Periyapurāṇam*, Vol.I, p.72

37. Some of the villages at the mouth of the river such as Talaicheṅgāḍu, Pallavavanam, Chāyāvanam, Svēthavanam and Perumpaḷḷam bear testimony.

38. Dr. S.K.Iyengar, *Ancient India*, p.176.

39. *Thēvāram*, I - 1, Brahmapuram.

40. *Ibid*, V.122

41. One of the Sangam poets bears the name 'Ariśilkiḻār'.

42. *Thēvāram*, I. 53; II.131; 150; VI - 121.

43. *Ibid*, III-8.

44. *Ibid*, II - 28; V - III -- 'Kaḍuvaikkarai Puththūr'. A branch of the Chōḻa Chūḍāmanai off Kuḍamuruṭṭi.

45. *Thēvāram*, I-176. Aiyāṟu II-112, Mullaivāyil - *Thēvāram* - I - 138, Śivapuram II - 151; Nāgēśvaram III - 74 - Kuḍamūkku.

46. *Indian Antiquary*, Volume XIII.

47. *Thēvāram* III - 139; I - 82 and II - 40. Śoikkāḍu -- at present there are two stones with Yantras

on them at the border of Kāvērippaṭṭiṇam i.e., near Chāyāvanam and they are deemed as boundary stones of 'Sampāthy's sway'.

48. *Periyapurāṇam*, I - 215.

49. *Thēvāram*, I-10, 85, 176; II - 74, 129, 141.

50. *South Indian Inscriptions:* I-33, 34 and the Vēlūr-pāḷayam plates.

51. *Thēvāram*, VII - 28.

52. *Ibid*, II-91.

53. *Ibid*, III-46 -- Kalatti.

54. *Ibid*, I-71, Marperu.

55. *Ibid*, II-114, Nelvāyilāththurai

56. *Ibid*. 11 - 16, Ēkambam.

57. *Ibid*, II-61, Amāththūr, 127, Kovalur.

58. *Ibid*, III - 98, Maṇikuḷi.

59. *Ibid*, III - 61, Amāththūr.

60. *Ibid*, I - 16, Muthukunṟam.

61. *Ibid*, I - 81, Pūvanam.

62. *Ibid*, III - 116, Vatakuraṅkātuthurai.

63. *Periyapurāṇam*, I-47.

64. There are hymns for five different Śaiva shrines.

65. *Thēvāram*, I - 181, Ekambam.

66. *Ibid*, III - 81, Kachchinerikkaraikkāḍu.

67. *Periyapurāṇam*, I - 401.

68. *Māmallapuram at the Śaṅgam Age*, Tamil Lexicon Office.

69. *Perumpāṇārruppatai*, L1 319-351.

70. *SII. III* p. 356 "Thalaśayanapuramaṇa Thaiyūr".

71. A.P. Buddhadatta, *Vinayavinichchaya (ed) Vol.II*, London, 1927, O.U.P.

72. *Aśōka*, University of Calcutta, (Calcutta, 1925).

73. D.R.Bhandarkar, *Aśōka*, p. 163.

74. A.P.Buddhadatta, Vinayavinichchaya quoted by C.Meenakshi in *Current Science* (Vol. VI. No.8).

75. C.Meenakshi, *Current Science*, Vol. VI, No.8.

76. *Ibid*, p.8.

77. Vincent A.Smith, *Oxford History of India*, p. 144.

78. "Iddhe Sabbanga Sampanne" -- a description applied in Pāli to a prosperous city or town.

79. "Sabbasa 'pana lokaśśa game Sampindite Viya".

80. Nigamana to Manorathapurāṇi:

"Ayaçitō sumatinā Bhadanta -- Buddhamittēna Kāñchi purādiśu maya publē saddhim vasanthēna"

Nigamana to Papañcha Sudānı:

"Ayāçitō sumatinā therēna -- Buddhamiṭtēna pubbē

Mayūraśuttapattinē saddhim vaśanthēna"

Apparently Mayūra was prakrit form of Māyāpura (Sanskrit Māyāpura or Mayāpura). cf. Patūra in the Nāgārjunikoṇḍa inscriptions = Palapura = Danta-pura).

81. *The Chronology of the Early Tamils* (University of Madras 1932), pp.72, 98.99; 10.102.

82. Āram-Garland-*Silappathikāram* - Canto XVIII, Stanza 29.

83. Canto XIII, L1 83-86.

84. *Vikrama Pāṇḍian Śaśana Pātal-Śentamil,* Vol.IV., p. 493-4.

85. *Kulaśēkara Pāṇḍian Meikīrthi.*

86. *Tenkāśi Śaśanam*

87. *Akanāṇūṟu,* 27, 130, 201, 296 and 350.

Naṟṟiṇai, 23, L1 5 and 6.

88. Paper on 'Valmiki and South India' in the Tamil Antiquary cited by K.A.Nilkanta Sastri: *'The Pāṇḍyan Kingdom'*, 1972, p.11.

89. Quoted in *Indian Antiquary,* Vol.VIII (April 1879) p.83.

90. *Indian Antiquary:* Vol.VIII, p.111.

91. *Ibid,* p.111.

92. *History of Tinnevelly,* p.18.

93. Details of the excavations are provided by the

booklets published by Caldwell -- *"Excavations at Korkai and Kāyal"* as well as his work *"History of Tinnevelly"*.

In 1969, the Tamilnadu State Department of Archaeology conducted excavations at Korkai.

94. Five miles away from the sea in the Srivaikuntam Taluk Tinnevelly District, Tamilnadu -- To-day the spot is a desolate hamlet.

95. Many Tamil scholars advance the 'Lemurian theory of early deluges'. The earliest reference to this idea occurs in Nakkirar's commentary to the *Irayanār Akapporul*. The theory had received indirect support from certain scientists whose ranks included geologists, ethnologists and anthropologists. Since this theory claims a fantastic antiquity to the land of the Tamils and illogical in certain respects, it has been questioned and writers like G.Gamov declare "It is therefore necessary to assume that the relative position of continents and poles was very much the same during all the geolic history as it is at present" (Biography of the Earth. p.147). What is suggested here is not a fourth sea-erosion submerging the continent but a change or extension and recession of the sea which is not an uncommon or unnatural phenomenon.

96. *Silappathikaram*, ch. XI, L1 18-20.

97. *Kalittokai*, Verse 104.

98. *Vide Infra*, Chapter II.

99. Gānges, Yamuna, Narmada, Śaraswathi, Kāvēri, Vilumiya Kumari and Gōdāvari. In invocation we find all the others except Kumari.

100. W.H.Schoff, *Periplus*. p.46.

101. *A Social History of the Tamils*, p.45.

102. K.K.Pillay, *A Social History of the Tamils*, Part I, University of Madras, 1969, p.45.

103. Vaḷḷiyūr, Nāṅgunēri Taluk, Tinnevelly District, Tamilnadu.

104. The Foote Collection - Notes on their Ages and Distribution, p.29.

105. *Tamil Culture*, (Madras, January 1953), p.8.

106. *District Gazetteers*, Tinnevelly, p.236.

107. Vināyakar worship is said to have found its way into the Tamil Country at a much later period. T.P.Meenakshisundaram: *"Piṟanthathu Yeppaḍiyō"* (Tamil).

IV

FORMATION AND INTERNAL STRUCTURE

1. R.E.Dickinson, *The West European City*, (London, 1950).

2. L1: 322-4; 349-51; 230; 262; 222; 295-6; 353-66.

3. G.Elliot Smith, *Nature* - January 15, 1927, p.8.

4. Pāḻi, Veerai. *Vide Supra*, Chapter II.

5. *"Émappērūr Chēriyum Śuraththum"*. The term *'Chēri'* denoting suburb occurs in the Śaṅgam Classics as well as in the *Śilappathikāram* and later works. (*Akanāṉūṟu* 76; *Naṟṟiṇai* 63-3; *Aiṅkuṟuṉūṟu* 279, 5; *Kuṟuntokai* 262-1; *Śilappathikāram* VI 133, VII 10:1:38:2). The language used in *Chēri* was known as *'Chēri moḻi'* (*Tolkāppiyam* 553:1 *poruḷ*). Sometimes, quarters of brahmins are also described as *Chēris* (Pārpanachchēri) on account of seclusion.

6. E.Service, *Origins of the State and Civilisation*, (New York, 1975), p. 75.

7. *Vide Supra*, Chapter II.

8. *"Vēnthan Mēya Teempunal Ulakam"*.

9. *Naṟṟiṇai* 100; *Akanāṉūṟu* 306-8; *Kaliṭṭokai (Marutham)* 2-5; *Aiṅkuṟuṉūṟu* 47.

10. *Kuṟuntokai* 73; *Naṟṟiṇai* 70; *Aiṅkuṟuṉūṟu* 31; *Siṟupāṇāṟṟuppatai* 66; *Akanāṉūṟu* 376.

11. *Puṟanāṉūṟu* 371-27; 13, 12, 30-5; 399-12-14, 40-10-11; *Poruṇarāṟṟuppatai* 248, 60.

12. *'Ūran'* means one who possesses an *Ūr* (village),

'*Mahilan*' may mean 'one who lives happily'.

13. *Purananuru* 371-27, The designation is that of Talayalankanaththu Cheru Venra Pandyan Netum-cheliyan.

14. T.K.Venkatasubramanian, "Environmental and Economic Orientation of Sangam Monarchy" (*Proceedings of the South Indian History Congress, Second Annual Conference,* University of Kerala, Trivandrum, 1981), p.131.

15. *Tolkappiyam, Puraththinai -- Porul:* 266.

16. *Pattinappalai* 283-86 -- Chola Karikala is stated to have undertaken reclamation of land and settled farmers.

    Maduraikkanchi 286-88. Refers to cultivation of paddy in hill-slopes after clearing the thorns and bushes as well as valuable trees like Akil and Sandal-wood.

17. Max Weber, *General Economic History* (tr. Frank H.Knight. The Free Press-Glencoe, illinois, 1950) 318-19.

18. *Ibid,* 321.

19. Paranjoythi Munivar, *Tiruvilayadal Puranam.* ch.3, V.2.

    "Kinnaram *Payil Kadambavanaththum kil*......
    ...... *Cheythiruppathu Manavur*".

20. *Ibid,* ch. 3, V.26.

21. *Ibid,* ch. 3, V.32.

22. Paranjoythi Munivar, *Tiruvilayadal Puranam:* ch.

3, V.38.

23. *Ibid*, ch. 3, V.42.

24. *Old Tiruviḷayāḍal Purāṇam* (Vēppaththūr *Tiruviḷayāḍal* Purāṇam) ch. 47, V.3.

25. *Ibid*, ch. 47, V.6.

26. *Ibid*, ch. 47, V.10.

27. *Ibid*, ch. 47, V.11.

28. *Old Tiruviḷayāḍal Purāṇam*, ch. 24, Verse i.

29. *Ibid*, ch. 24, V.4.

30. *Ibid*, ch. 24, V.6.

31. *Ibid*, ch. 47, Verse 14.

32. *Ibid*, Kallātam, Verse 44.

33. *Maduraikkāñchi*, L 356.

34. *Śilappathikāram*, ch. VI, L. 32.

35. *Paṭṭinappālai*, Lines 173-174.

36. *Ibid*, L1 194-195.

37. *Śilappathikāram*, ch. V. Line 10.

38. *Paṭṭinappālai*, L 121-135.

39. *Maṇimēkalai*, ch. XXVIII -- Lines 29-30.

40. *"Thirukkōil illātha Tiruvilūr Ūralla, Aḍavikkādē"*.

41. M.M.Webber (1964), Urban place and non-place urban realm in M.M.Webber *"et al"*: Exploration into urban structure (Philadelphia), 1964, 116.

42. *Śilappathikāram*, ch. 14, L1 70-71.

43. *Ibid*, ch. 14, L. 82.

44. *Ibid*, ch. 14, L. 82.

45. *Ibid*, ch. 14, L1 168-176.

46. *Ibid*, ch. 14, L1 210-211.

47. *Ibid*, ch. 14, L1 212-214.

48. *Ibid*, ch. 13, L1 179-180.

49. *Ibid*, ch. 13, L. 179-180.

50. *Maṇimēkalai*, ch. XXVIII, L. 5 to 8.

51. *Ibid*, ch. XXVIII. L. 156-159.

52. *Ibid*, ch. XXVIII, L. 188-192.

53. *Ibid*, ch. XXVIII, L. 200-206.

54. *Ibid*, ch. XXVIII, L. 175.

55. *Śilappathikāram*, ch. VI, L. 169-171.

56. *Ibid*, ch. VI, 150.

57. *Paṭṭinappālai*: L. 118-119.

58. *Śilappathikāram*, ch. VI. L. 128-129.

59. *Ibid*, ch. X, L. 26-27.

60. *Ibid*, ch. X, L. 29-30.

61. *Ibid*, ch. X, L. 29-30.

62. *Paṭṭinappālai*, L. 36-38.

63. *Poruṇarāṟṟuppaṭai*, L. 208-210.

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71. *Śilappathikāram*, ch. V. I. 133-134.

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2. *S̄iṟupāṇāṟṟuppaṭai,* 41-6.

3. *Puṟanāṉūṟu,* 40. L1 10-14.

4. *Ibid,* 353.

5. *Ibid,* 14, 15, 152, 170.

6. *Maduraiḳkāñchi,* 377-91; *Puṟanāṉūṟu,* 238, 368.

7. *Perumpānāṟṟuppaṭai,* 319-21.

8. *Paṭṭinappālai.* Lines 78-83, 97-100.

9. *Puṟanāṉūṟu,* 33.

10. *Ibid,* 208.

11. *Ibid,* 329.

12. *Perumpāṇāṟṟuppaṭai,* Line 469.

13. *Ibid,* 350.

14. *Ibid,* Lines 78-80.

15. *Puṟanāṉūṟu,* 59.

16. *Ibid,* 172.

17. *Ibid,* 60, 170, 321.

18. *Ibid*, 192.

19. *Ibid*, 256.

20. *Ibid*, 343, 313, 60, 393.

21. *Puranānūru*, 84.

22. *Ibid*, 39.

23. *Ibid*, 39.

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25. T.V.Kuppuswami, *The Urban Phase of Ancient Tamil Culture* (Sankara-Parvathy Endowment Lectures 1971-72, University of Madras), Bulletin of the Institute of Traditional Cultures - Madras, 1973, p. 19-39.

26. *Puranānūru*, 56:L1 18-20; 56. - Yavanappāni, Yavanamañjikai, Souakachchidukku.

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28. *Ibid*, p. 263-273.

29. *Vide Supra*, Chapter II.

30. V.I.Lenin, *Collected Works*, Vol.14, p.138.

31. *Vide Supra*, Introduction - (Sources - *Akapporul* and *Purapporul*).

32. *cf*: *"Iruvayin otthal"* (Equal love both before and after marriage) - Love, hebetude, inappetency, tenderness, transparent candour between married couples - as corner stones of conjugal life.

32 a. *Kalittokai*, 101, 103, (26).

33. *Akanāṉūṟu*, 90, 280.

34. *Aiṅkuṟunūṟu*, 147-3, 292, 3-5; *Akanāṉūṟu*, 86, 136.

35. *Akanāṉūṟu*, 90; *Naṟṟiṇai*, 300.

36. Day when vaxing moon was in conjunction with Rōhiṇi.

37. *Kaliṭṭokai*, 69, 5-4. K.N.Sivaraja Pillai considers this as one of the later works of the Śaṅgam Age. (Chronology of the early Tamils, p.199).

38. *Perumpāṇāṟṟuppaṭai*, 302-3.

39. *Vide Supra;* Chapter III.

40. In contrast to the theories of 'geographical determinism' Marxism holds that "Geographical Environment" does not and cannot determine social development. Marx declared that "History itself is a REAL part of NATURAL-HISTORY of Nature's coming to be man" (*Economic and Philosophic Manuscripts of 1842*, Moscow, 1961), p. 111.

41. *Vide Supra*, Chapter II - Environment.

42. *Vide Supra*, Chapter III - Location of Sites.

43. K.K.Pillay, *A Social History of the Tamils, Op. cit.*, Chapters VIII and X.

44. *Ibid*, Chapter VI.

45. "Ēḻulakum Āḻi" - *Paripāṭal:* 8;64.

46. *Aiṅkuṟunūṟu*, 182; 16:7; *Śilappathikāram*, XXIV;6.

47. *Śilappathikāram:* XXIV, 45-46.

48. The Story of Muchukunda is found in *Bhāgavatham*, *Vishṇupurāṇam*, *Skāntham* and others, each of which give a different version. But the epic *Maṇimēkalai* tells us that the deity helped Muchukundar in overcoming demons.

49. *Śilappathikāram*, ch.VI; 133-34.

50. V.T.Induchudan, Archaeological excavations in Koduṅkallūr - a general impression - (*Journal of Indian History*, Vol. XLVIII, Part I).

51. Indra. *Paripātal*, 5:58-60; 9;2-4; 19:50-52; 2:96-97; *Kaliṭtokai:* 105:15.

52. *Puṟanāṉūṟu*, 241:3.

53. *Śilappathikāram*, IX; 12.

54. *Ibid*, V.

55. *Maṇimēkalai*, XXIV; 47; *Śilappathikāram*, X:163, 182; XI:7; *Maduraikkāñchi*, 476.

56. A Jain temple called Srikaṇḍan Paḷḷi (Nikkaṇḍakkōṭtam) is mentioned in *Śilappathikāram*, IX: 13.

57. V.Nagam Aiya, *The Travancore State Manual*, Vol.II, p. 224-6.

58. *Paripātal*, 3:31-32; *Kaliṭtokai*, 26:3; 140-8.

59. *Kaliṭtokai*, 27 and 92.

60. *Śilappathikāram*, VI: 56-7.

61. *Ibid*, IX:60.

62. *Marudakkali*, V.29.

63. *Śilappathikāram*, ch.V:L 9-14.

64. Indian Archaeology, 1962-63, A Review, p. 12.

65. S.Vaiyapuri Pillai: *History of Tamil Language and Literature Beginning to 1000 A.D.* (Madras, 1956).

66. The Jain caves at Veḷḷimalai, Ārpākkam, Tirumalai etc. are proofs.

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